

NASA SP-7039(35)  
Section 2  
Indexes

# NASA PATENT ABSTRACTS BIBLIOGRAPHY

A CONTINUING BIBLIOGRAPHY

Section 2 • Indexes

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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NASA SP-7039(28) SEC 1	N85-22342 - N85-36162
NASA SP-7039(29) SEC 1	N86-10001 - N86-22536
NASA SP-7039(30) SEC 1	N86-22537 - N86-33262
NASA SP-7039(31) SEC 1	N87-10001 - N87-20170
NASA SP-7039(32) SEC 1	N87-20171 - N87-30248
NASA SP-7039(33) SEC 1	N88-10001 - N88-20253
NASA SP-7039(34) SEC 1	N88-20254 - N88-30583
NASA SP-7039(35) SEC 1	N89-10001 - N89-20085

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**NASA**

**PATENT  
ABSTRACTS  
BIBLIOGRAPHY**

**A CONTINUING BIBLIOGRAPHY**

**Section 2 • Indexes**

**Indexes for the annotated references to NASA-owned inventions covered by U.S. patents and applications for patent that were announced in *Scientific and Technical Aerospace Reports (STAR)* between May 1969 and June 1989. This issue supersedes all previous Index Sections**



National Aeronautics and Space Administration  
Office of Management  
Scientific and Technical Information Division  
Washington, DC

1989

This supplement is available from the National Technical Information Service (NTIS), Springfield, Virginia 22161, price code A22.

# INTRODUCTION

Several thousand inventions result each year from the aeronautical and space research supported by the National Aeronautics and Space Administration. The inventions having important use in government programs or significant commercial potential are usually patented by NASA. These inventions cover practically all fields of technology and include many that have useful and valuable commercial application.

NASA inventions best serve the interests of the United States when their benefits are available to the public. In many instances, the granting of nonexclusive or exclusive licenses for the practice of these inventions may assist in the accomplishment of this objective. This bibliography is published as a service to companies, firms, and individuals seeking new, licensable products for the commercial market.

The *NASA Patent Abstracts Bibliography (NASA PAB)* is a semiannual NASA publication containing comprehensive abstracts and indexes of NASA-owned inventions covered by U.S. patents and applications for patent. The citations included in *NASA PAB* were originally published in NASA's *Scientific and Technical Aerospace Reports (STAR)* and cover *STAR* announcements made since May 1969.

For the convenience of the user, each issue of *NASA PAB* has a separately bound Abstract Section (Section 1) and Index Section (Section 2). Although each Abstract Section covers only the indicated six-month period, the Index Section is cumulative covering all NASA-owned inventions announced in *STAR* since 1969. Thus a complete set of *NASA PAB* would consist of the Abstract Sections of Issue 04 (January 1974) and Issue 12 (January 1978) and the Abstract Section for all subsequent issues and the Index Section for the most recent issue.

The 58 citations published in this issue of the Abstract Section cover the period January 1989 through June 1989. The Index Section references over 4600 citations covering the period May 1969 through June 1989.

## ABSTRACT SECTION (SECTION 1)

This *PAB* issue includes 10 major subject divisions separated into 76 specific categories and one general category/division. (See Table of Contents for the scope note of each category, under which are grouped appropriate NASA inventions.) This scheme was devised in 1975 and revised in 1987 in lieu of the 34 category divisions which were utilized in *PAB* supplements (01) through (06) covering *STAR* abstracts from May 1969 through January 1974. Each entry in the Abstract Section consists of a *STAR* citation accompanied by an abstract and, when appropriate, a key illustration taken from the patent or application for patent. Entries are arranged by subject category in order of the ascending NASA Accession Number originally assigned for *STAR* to the invention. The range of NASA Accession Numbers within each issue is printed on the inside front cover.

*Abstract Citation Data Elements:* Each of the abstract citations has several data elements useful for identification and indexing purposes, as follows:

- NASA Accession Number
- NASA Case Number
- Inventor's Name
- Title of Invention
- U.S. Patent Application Serial Number
- U.S. Patent Number (for issued patents only)
- U.S. Patent Office Classification Number(s)  
(for issued patents only)

These data elements are identified in the Typical Citation and Abstract and in the indexes.

## INDEX SECTION (SECTION 2)

The Index Section is divided into five indexes. These indexes are cross-indexed and are used to locate a single invention or groups of inventions.

**Subject Index:** Lists all inventions according to appropriate alphabetized technical term and indicates the related NASA Case Number, the Subject Category Number, and the Accession Number.

**Inventor Index:** Lists all inventions according to alphabetized names of inventors and indicates the related NASA Case Number, the Subject Category Number, and the Accession Number.

**Source Index:** Lists all inventions according to alphabetized source of invention (i.e., name of contractor or government installation where invention was made) and indicates the related NASA Case Number, the Subject Category Number, and the Accession Number.

**Number Index:** Lists inventions in order of ascending (1) NASA Case Number, (2) U.S. Patent Application Serial Number, (3) U.S. Patent Classification Number, and (4) U.S. Patent Number and indicates the related Subject Category Number and the Accession Number.

**Accession Number Index:** Lists all inventions in order of ascending Accession Number and indicates the related Subject Category Number, the NASA Case Number, the U.S. Patent Application Serial Number, the U.S. Patent Classification Number, and the U.S. Patent Number.

## HOW TO USE THIS PUBLICATION TO IDENTIFY NASA INVENTIONS

To identify one or more NASA inventions within a specific technical field or subject, several techniques are possible with the flexibility incorporated into the *NASA PAB*.

(1) *Using Subject Category:* To identify all NASA inventions in any one of the subject categories in this issue of *NASA PAB*, select the desired Subject Category in the Abstract Section (Section 1) and find the inventions abstracted thereunder.

(2) *Using Subject Index:* To identify all NASA inventions listed under a desired technical subject index term, (A) turn to the cumulative Subject Index in the Index Section and find the invention(s) listed under the desired technical subject term. (B) Note the indicated Accession Number and the Subject Category Number. (C) Using the indicated Accession Number, turn to the inside front cover of the Index Section to determine which issue of the Abstract Section includes the Accession Number desired. (D) To find the abstract of the particular invention in the issue of the Abstract Section selected, (1) use the Subject Category Number to locate the Subject Category and (2) use the Accession Number to locate the desired invention within the Subject Category listing.

(3) *Using Patent Classification Index:* To identify all inventions covered by issued NASA patents (not including applications for patent) within a desired Patent Classification, (A) turn to the Patent Classification Number in the Number Index of Section 2 and find the associated invention(s), and (B) follow the instructions outlined in (2)(B), and (D) above.

# TYPICAL CITATION AND ABSTRACT

NASA SPONSORED

ACCESSION NUMBER → **N89-12621\*** National Aeronautics and Space Administration.  
Lyndon B. Johnson Space Center, Houston, TX.

← CORPORATE SOURCE

TITLE → **SPACE STATION ERECTABLE MANIPULATOR PLACEMENT  
SYSTEM Patent**

INVENTOR → MARGARET E. GRIMALDI, inventor (to NASA) 20 Sep. 1988  
7 p Filed 13 Nov. 1986 Supersedes N87-18596 (25 - 11, p 1446)

NASA CASE NUMBER → (NASA-CASE-MSC-21096-1; US-PATENT-4,772,175;

US PATENT APPLICATIONS → US-PATENT-APPL-SN-929865; US-PATENT-CLASS-414-689;  
SERIAL NUMBER → US-PATENT-CLASS-414-718; US-PATENT-CLASS-414-735;

US-PATENT-CLASS-212-225; US-PATENT-CLASS-212-257;  
US-PATENT-CLASS-182-103) Avail: US Patent and Trademark  
Office CSCL 22A

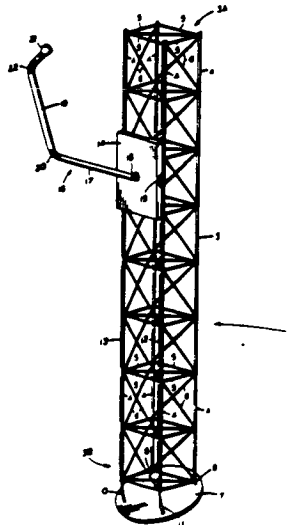
← AVAILABILITY SOURCE

COSATI CODE

A habitable space station was proposed for low earth orbit, to be constructed from components which will be separately carried up from the earth and thereafter assembled. A suitable manipulating system having extraordinary manipulative capability is required. The invention is an erectable manipulator placement system for use on a space station and comprises an elongate, lattice-like boom having guide tracks attached thereto, a carriage-like assembly pivotally mounted on and extending from said dolly. The system further includes a turntable base pivotally interconnected with the proximal end of the boom and positioned either on a part of a transferring vehicle, or on another payload component being carried by the said transferring vehicle, or on the space station. Novelty resides in the use of a turntable base having a hinged boom with a dolly translatable therealong to carry the arm-like assembly, thus providing an additional 3 degrees of freedom to the arm.

← ABSTRACT

Official Gazette of the U.S. Patent and Trademark Office



← KEY ILLUSTRATION

# Subject Categories

(1969 – 1973)

## 01 Aerodynamics

Includes aerodynamics of bodies, combinations, internal flow in ducts and turbomachinery; wings, rotors, and control surfaces. For applications see: 02 Aircraft and 32 Space Vehicles. For related information see also: 12 Fluid Mechanics; and 33 Thermodynamics and Combustion.

## 02 Aircraft

Includes fixed-wing airplanes, helicopters, gliders, balloons, ornithopters, etc.; and specific types of complete aircraft (e.g., ground effect machines, STOL, and VTOL); flight tests; operating problems (e.g., sonic boom); safety and safety devices; economics; and stability and control. For basic research see: 01 Aerodynamics. For related information see also: 31 Space Vehicles; and 32 Structural Mechanics.

## 03 Auxiliary Systems

Includes fuel cells, energy conversion cells, and solar cells; auxiliary gas turbines; hydraulic, pneumatic and electrical systems; actuators; and inverters. For related information see also: 09 Electronic Equipment; 22 Nuclear Engineering; and 28 Propulsion Systems.

## 04 Biosciences

Includes aerospace medicine, exobiology, radiation effects on biological systems; physiological and psychological factors. For related information see also: 05 Biotechnology.

## 05 Biotechnology

Includes life support systems, human engineering; protective clothing and equipment; crew training and evaluation, and piloting. For related information see also: 04 Biosciences.

## 06 Chemistry

Includes chemical analysis and identification (e.g., spectroscopy). For applications see: 17 Materials, Metallic; 18 Materials, Nonmetallic; and 27 Propellants.

## 07 Communications

Includes communications equipment and techniques; noise; radio and communications blackout; modulation telemetry; tracking radar and optical observation; and wave propagation. For basic research see: 23 Physics, General; and 21 Navigation.

## 08 Computers

Includes computer operation and programming; and data processing. For applications, see specific categories. For related information see also: 19 Mathematics.

## 09 Electronic Equipment

Includes electronic test equipment and maintainability; component parts, e.g., electron tubes, tunnel diodes, transistors, integrated circuitry; microminiaturization. For basic research see: 10 Electronics. For related information see also: 07 Communications and 21 Navigation.

## 10 Electronics

Includes circuit theory; and feedback and control theory. For applications see: 09 Electronic Equipment. For related information see specific Physics categories.

## 11 Facilities, Research and Support

Includes airports; lunar and planetary bases including associated vehicles; ground support systems; related logistics; simulators; test facilities (e.g., rocket engine test stands, shock tubes, and wind tunnels); test ranges; and tracking stations.

## 12 Fluid Mechanics

Includes boundary-layer flow; compressible flow; gas dynamics; hydrodynamics; and turbulence. For related information see also: 01 Aerodynamics; and 33 Thermodynamics and Combustion.

## 13 Geophysics

Includes aeronomy; upper and lower atmosphere studies; oceanography; cartography; and geodesy. For related information see also: 20 Meteorology; 29 Space Radiation; and 30 Space Sciences.

## 14 Instrumentation and Photography

Includes design, installation, and testing of instrumentation systems; gyroscopes; measuring instruments and gages; recorders, transducers; aerial photography; and telescopes and cameras.

## 15 Machine Elements and Processes

Includes bearings, seals, pumps, and other mechanical equipment; lubrication, friction, and wear; manufacturing processes and quality control; reliability; drafting; and materials fabrication, handling, and inspection.

## 16 Masers

Includes applications of masers and lasers. For basic research see: 26 Physics, Solid-State.

## 17 Materials, Metallic

Includes cermets; corrosion; physical and mechanical properties of materials; metallurgy; and applications as structural materials. For basic research see: 06 Chemistry. For related information see also: 18 Materials, Nonmetallic; and 32 Structural Mechanics.

## 18 Materials, Nonmetallic

Includes corrosion; physical and mechanical properties of materials (e.g., plastics); and elastomers, hydraulic fluids, etc. For basic research see: 06 Chemistry. For related information see also: 17 Materials, Metallic; 27 Propellants; and 32 Structural Mechanics.

**19 Mathematics**

Includes calculation methods and theory; and numerical analysis. For applications see specific categories. For related information see also: 08 Computers.

**20 Meteorology**

Includes climatology; weather forecasting; and visibility studies. For related information see also: 13 Geophysics; and 30 Space Sciences.

**21 Navigation**

Includes guidance; autopilots; star and planet tracking; inertial platforms; and air traffic control. For related information see also: 07 Communications.

**22 Nuclear Engineering**

Includes nuclear reactors and nuclear heat sources used for propulsion and auxiliary power. For basic research see: 24 Physics, Atomic, Molecular, and Nuclear. For related information see also: 03 Auxiliary Systems; and 28 Propulsion Systems.

**23 Physics, General**

Includes acoustics, cryogenics, mechanics, and optics. For astrophysics see: 30 Space Sciences. For geophysics and related information see also: 13 Geophysics, 20 Meteorology, and 29 Space Radiation.

**24 Physics, Atomic, Molecular, and Nuclear**

Includes atomic, molecular and nuclear physics. For applications see: 22 Nuclear Engineering. For related information see also: 29 Space Radiation.

**25 Physics, Plasma**

Includes magnetohydrodynamics. For applications see: 28 Propulsion Systems.

**26 Physics, Solid-State**

Includes semiconductor theory; and superconductivity. For applications see: 16 Masers. For related information see also: 10 Electronics.

**27 Propellants**

Includes fuels; igniters; and oxidizers. For basic research see: 06 Chemistry; and 33 Thermodynamics and Combustion. For related information see also 28 Propulsion Systems.

**28 Propulsion Systems**

Includes air breathing, electric, liquid, solid, and magnetohydrodynamic propulsion. For nuclear propulsion see: 22 Nuclear Engineering. For basic research see: 23 Physics, General; and 33 Thermodynamics and Combustion. For applications see: 31 Space Vehicles. For related information see also: 27 Propellants.

**29 Space Radiation**

Includes cosmic radiation; solar flares; solar radiation; and Van Allen radiation belts. For related information see also: 13 Geophysics, and 24 Physics, Atomic, Molecular, and Nuclear.

**30 Space Sciences**

Includes astronomy and astrophysics; cosmology; lunar and planetary flight and exploration; and theoretical analysis of orbits and trajectories. For related information see also: 11 Facilities, Research and Support; and 31 Space Vehicles.

**31 Space Vehicles**

Includes launch vehicles; manned space capsules; clustered and multistage rockets; satellites; sounding rockets and probes; and operating problems. For basic research see: 30 Space Sciences. For related information see also: 28 Propulsion Systems; and 32 Structural Mechanics.

**32 Structural Mechanics**

Includes structural element design and weight analysis; fatigue; thermal stress; impact phenomena; vibration; flutter; inflatable structures; and structural tests. For related information see also: 17 Materials, Metallic; and 18 Materials, Nonmetallic.

**33 Thermodynamics and Combustion**

Includes ablation, cooling, heating, heat transfer, thermal balance, and other thermal effects; and combustion theory. For related information see also: 12 Fluid Mechanics; and 27 Propellants.

**34 General**

Includes information of a broad nature related to industrial applications and technology, and to basic research; defense aspects; information retrieval; management; law and related legal matters; and legislative hearings and documents.

# TABLE OF CONTENTS

## Revised Subject Categories

(Includes 1974 and 1987 revisions)

### AERONAUTICS

Includes aeronautics (general); aerodynamics; air transportation and safety; aircraft communications and navigation; aircraft design, testing and performance; aircraft instrumentation; aircraft propulsion and power; aircraft stability and control; and research and support facilities (air).

For related information see also *Astronautics*.

#### 01 AERONAUTICS (GENERAL)

#### 02 AERODYNAMICS

Includes aerodynamics of bodies, combinations, wings, rotors, and control surfaces; and internal flow in ducts and turbomachinery.

For related information see also *34 Fluid Mechanics and Heat Transfer*

#### 03 AIR TRANSPORTATION AND SAFETY

Includes passenger and cargo air transport operations; and aircraft accidents.

For related information see also *16 Space Transportation* and *85 Urban Technology and Transportation*.

#### 04 AIRCRAFT COMMUNICATIONS AND NAVIGATION

Includes digital and voice communication with aircraft; air navigation systems (satellite and ground based); and air traffic control.

For related information see also *17 Space Communications, Spacecraft Communications, Command and Tracking* and *32 Communications and Radar*.

#### 05 AIRCRAFT DESIGN, TESTING AND PERFORMANCE

Includes aircraft simulation technology.

For related information see also *18 Spacecraft Design, Testing and Performance* and *39 Structural Mechanics*. For land transportation vehicles see *85 Urban Technology and Transportation*.

#### 06 AIRCRAFT INSTRUMENTATION

Includes cockpit and cabin display devices; and flight instruments.

For related information see also *19 Spacecraft Instrumentation* and *35 Instrumentation and Photography*.

#### 07 AIRCRAFT PROPULSION AND POWER

Includes prime propulsion systems and systems components, e.g., gas turbine engines and compressors; and onboard auxiliary power plants for aircraft.

For related information see also *20 Spacecraft Propulsion and Power*, *28 Propellants and Fuels*, and *44 Energy Production and Conversion*.

#### 08 AIRCRAFT STABILITY AND CONTROL

Includes aircraft handling qualities; piloting; flight controls; and autopilots.

For related information see also *05 Aircraft Design, Testing and Performance*.

### 09 RESEARCH AND SUPPORT FACILITIES (AIR)

Includes airports, hangars and runways; aircraft repair and overhaul facilities; wind tunnels; shock tubes; and aircraft engine test stands.

For related information see also *14 Ground Support Systems and Facilities (Space)*.

### ASTRONAUTICS

Includes astronautics (general); astrodynamics; ground support systems and facilities (space); launch vehicles and space vehicles; space transportation; space communications, spacecraft communications, command and tracking; spacecraft design, testing and performance; spacecraft instrumentation; and spacecraft propulsion and power.

For related information see also *Aeronautics*

#### 12 ASTRONAUTICS (GENERAL)

For extraterrestrial exploration see *91 Lunar and Planetary Exploration*.

#### 13 ASTRODYNAMICS

Includes powered and free-flight trajectories; and orbital and launching dynamics.

#### 14 GROUND SUPPORT SYSTEMS AND FACILITIES (SPACE)

Includes launch complexes, research and production facilities; ground support equipment, e.g., mobile transporters; and simulators.

For related information see also *09 Research and Support Facilities (Air)*.

#### 15 LAUNCH VEHICLES AND SPACE VEHICLES

Includes boosters; operating problems of launch/space vehicle systems; and reusable vehicles.

For related information see also *20 Spacecraft Propulsion and Power*.

#### 16 SPACE TRANSPORTATION

Includes passenger and cargo space transportation, e.g., shuttle operations; and space rescue techniques.

For related information see also *03 Air Transportation and Safety* and *18 Spacecraft Design, Testing and Performance*. For space suits see *54 Man/System Technology and Life Support*.

#### 17 SPACE COMMUNICATIONS, SPACECRAFT COMMUNICATIONS, COMMAND AND TRACKING

Includes telemetry; space communications networks; astronavigation and guidance; and radio blackout.

For related information see also *04 Aircraft Communications and Navigation* and *32 Communications and Radar*.



## **18 SPACECRAFT DESIGN, TESTING AND PERFORMANCE**

Includes satellites; space platforms; space stations; spacecraft systems and components such as thermal and environmental controls; and attitude controls.

For life support systems see *54 Man/System Technology and Life Support*. For related information see also *05 Aircraft Design, Testing and Performance*, *39 Structural Mechanics*, and *16 Space Transportation*.

## **19 SPACECRAFT INSTRUMENTATION**

For related information see also *06 Aircraft Instrumentation* and *35 Instrumentation and Photography*.

## **20 SPACECRAFT PROPULSION AND POWER**

Includes main propulsion systems and components, e.g. rocket engines; and spacecraft auxiliary power sources.

For related information see also *07 Aircraft Propulsion and Power*, *28 Propellants and Fuels*, *44 Energy Production and Conversion*, and *15 Launch Vehicles and Space Vehicles*.

## **CHEMISTRY AND MATERIALS**

Includes chemistry and materials (general); composite materials; inorganic and physical chemistry; metallic materials; nonmetallic materials; propellants and fuels; and materials processing.

## **23 CHEMISTRY AND MATERIALS (GENERAL)**

## **24 COMPOSITE MATERIALS**

Includes physical, chemical, and mechanical properties of laminates and other composite materials.

For ceramic materials see *27 Nonmetallic Materials*.

## **25 INORGANIC AND PHYSICAL CHEMISTRY**

Includes chemical analysis, e.g., chromatography; combustion theory; electrochemistry; and photochemistry.

For related information see also *77 Thermodynamics and Statistical Physics*.

## **26 METALLIC MATERIALS**

Includes physical, chemical, and mechanical properties of metals, e.g., corrosion; and metallurgy.

## **27 NONMETALLIC MATERIALS**

Includes physical, chemical, and mechanical properties of plastics, elastomers, lubricants, polymers, textiles, adhesives, and ceramic materials.

For composite materials see *24 Composite Materials*.

## **28 PROPELLANTS AND FUELS**

Includes rocket propellants, igniters and oxidizers; their storage and handling procedures; and aircraft fuels.

For related information see also *07 Aircraft Propulsion and Power*, *20 Spacecraft Propulsion and Power*, and *44 Energy Production and Conversion*.

## **29 MATERIALS PROCESSING**

Includes space-based development of products and processes for commercial application.

For biological materials see *55 Space Biology*.

## **ENGINEERING**

Includes engineering (general); communications and radar; electronics and electrical engineering; fluid mechanics and heat transfer; instrumentation and photography; lasers and masers; mechanical engineering; quality assurance and reliability; and structural mechanics.

For related information see also *Physics*.

## **31 ENGINEERING (GENERAL)**

Includes vacuum technology; control engineering; display engineering; cryogenics; and fire prevention.

## **32 COMMUNICATIONS AND RADAR**

Includes radar; land and global communications; communications theory; and optical communications.

For related information see also *04 Aircraft Communications and Navigation* and *17 Space Communications, Spacecraft Communications, Command and Tracking*. For search and rescue see *03 Air Transportation and Safety*, and *16 Space Transportation*.

## **33 ELECTRONICS AND ELECTRICAL ENGINEERING**

Includes test equipment and maintainability; components, e.g., tunnel diodes and transistors; microminiaturization; and integrated circuitry.

For related information see also *60 Computer Operations and Hardware* and *76 Solid-State Physics*.

## **34 FLUID MECHANICS AND HEAT TRANSFER**

Includes boundary layers; hydrodynamics; fluidics; mass transfer and ablation cooling.

For related information see also *02 Aerodynamics* and *77 Thermodynamics and Statistical Physics*.

## **35 INSTRUMENTATION AND PHOTOGRAPHY**

Includes remote sensors; measuring instruments and gages; detectors; cameras and photographic supplies; and holography.

For aerial photography see *43 Earth Resources and Remote Sensing*. For related information see also *06 Aircraft Instrumentation* and *19 Spacecraft Instrumentation*.

## **36 LASERS AND MASERS**

Includes parametric amplifiers.

For related information see also *76 Solid-State Physics*.

## **37 MECHANICAL ENGINEERING**

Includes auxiliary systems (nonpower); machine elements and processes; and mechanical equipment.

## **38 QUALITY ASSURANCE AND RELIABILITY**

Includes product sampling procedures and techniques; and quality control.

## **39 STRUCTURAL MECHANICS**

Includes structural element design and weight analysis; fatigue; and thermal stress.

For applications see *05 Aircraft Design, Testing and Performance* and *18 Spacecraft Design, Testing and Performance*.

## **GEOSCIENCES**

Includes geosciences (general); earth resources and remote sensing; energy production and conversion; environment pollution; geophysics; meteorology and climatology; and oceanography.

For related information see also *Space Sciences*.

### **42 GEOSCIENCES (GENERAL)**

#### **43 EARTH RESOURCES AND REMOTE SENSING**

Includes remote sensing of earth resources by aircraft and spacecraft; photogrammetry; and aerial photography.

For instrumentation see *35 Instrumentation and Photography*.

#### **44 ENERGY PRODUCTION AND CONVERSION**

Includes specific energy conversion systems, e.g., fuel cells; global sources of energy; geophysical conversion; and windpower.

For related information see also *07 Aircraft Propulsion and Power*, *20 Spacecraft Propulsion and Power*, and *28 Propellants and Fuels*.

#### **45 ENVIRONMENT POLLUTION**

Includes atmospheric, noise, thermal, and water pollution.

#### **46 GEOPHYSICS**

Includes aeronomy; upper and lower atmosphere studies; ionospheric and magnetospheric physics; and geomagnetism.

For space radiation see *93 Space Radiation*.

#### **47 METEOROLOGY AND CLIMATOLOGY**

Includes weather forecasting and modification.

#### **48 OCEANOGRAPHY**

Includes biological, dynamic, and physical oceanography; and marine resources.

For related information see also *43 Earth Resources and Remote Sensing*.

## **LIFE SCIENCES**

Includes life sciences (general); aerospace medicine; behavioral sciences; man/system technology and life support; and space biology.

### **51 LIFE SCIENCES (GENERAL)**

#### **52 AEROSPACE MEDICINE**

Includes physiological factors; biological effects of radiation; and effects of weightlessness on man and animals.

#### **53 BEHAVIORAL SCIENCES**

Includes psychological factors; individual and group behavior; crew training and evaluation; and psychiatric research.

#### **54 MAN/SYSTEM TECHNOLOGY AND LIFE SUPPORT**

Includes human engineering; biotechnology; and space suits and protective clothing.

For related information see also *16 Space Transportation*.

### **55 SPACE BIOLOGY**

Includes exobiology; planetary biology; and extraterrestrial life.

## **MATHEMATICAL AND COMPUTER SCIENCES**

Includes mathematical and computer sciences (general); computer operations and hardware; computer programming and software; computer systems; cybernetics; numerical analysis; statistics and probability; systems analysis; and theoretical mathematics.

### **59 MATHEMATICAL AND COMPUTER SCIENCES (GENERAL)**

#### **60 COMPUTER OPERATIONS AND HARDWARE**

Includes hardware for computer graphics, firmware, and data processing.

For components see *33 Electronics and Electrical Engineering*.

#### **61 COMPUTER PROGRAMMING AND SOFTWARE**

Includes computer programs, routines, algorithms, and specific applications, e.g., CAD/CAM.

#### **62 COMPUTER SYSTEMS**

Includes computer networks and special application computer systems.

#### **63 CYBERNETICS**

Includes feedback and control theory, artificial intelligence, robotics and expert systems.

For related information see also *54 Man/System Technology and Life Support*.

#### **64 NUMERICAL ANALYSIS**

Includes iteration, difference equations, and numerical approximation.

#### **65 STATISTICS AND PROBABILITY**

Includes data sampling and smoothing; Monte Carlo method; and stochastic processes.

#### **66 SYSTEMS ANALYSIS**

Includes mathematical modeling; network analysis; and operations research.

#### **67 THEORETICAL MATHEMATICS**

Includes topology and number theory.

## **PHYSICS**

Includes physics (general); acoustics; atomic and molecular physics; nuclear and high-energy physics; optics; plasma physics; solid-state physics; and thermodynamics and statistical physics.

For related information see also *Engineering*.

### **70 PHYSICS (GENERAL)**

For precision time and time interval (PTTI) see *35 Instrumentation and Photography*; for geophysics, astrophysics or solar physics see *46 Geophysics*, *90 Astrophysics*, or *92 Solar Physics*.

## 71 ACOUSTICS

Includes sound generation, transmission, and attenuation.

For noise pollution see *45 Environment Pollution*.

## 72 ATOMIC AND MOLECULAR PHYSICS

Includes atomic structure, electron properties, and molecular spectra.

## 73 NUCLEAR AND HIGH-ENERGY PHYSICS

Includes elementary and nuclear particles; and reactor theory.

For space radiation see *93 Space Radiation*.

## 74 OPTICS

Includes light phenomena and optical devices.

For lasers see *36 Lasers and Masers*.

## 75 PLASMA PHYSICS

Includes magnetohydrodynamics and plasma fusion.

For ionospheric plasmas see *46 Geophysics*. For space plasmas see *90 Astrophysics*.

## 76 SOLID-STATE PHYSICS

Includes superconductivity.

For related information see also *33 Electronics and Electrical Engineering* and *36 Lasers and Masers*.

## 77 THERMODYNAMICS AND STATISTICAL PHYSICS

Includes quantum mechanics; theoretical physics; and Bose and Fermi statistics.

For related information see also *25 Inorganic and Physical Chemistry* and *34 Fluid Mechanics and Heat Transfer*.

## SOCIAL SCIENCES

Includes social sciences (general); administration and management; documentation and information science; economics and cost analysis; law, political science, and space policy; and urban technology and transportation.

## 80 SOCIAL SCIENCES (GENERAL)

Includes educational matters.

## 81 ADMINISTRATION AND MANAGEMENT

Includes management planning and research.

## 82 DOCUMENTATION AND INFORMATION SCIENCE

Includes information management; information storage and retrieval technology; technical writing; graphic arts; and micrography.

For computer documentation see *61 Computer Programming and Software*.

## 83 ECONOMICS AND COST ANALYSIS

Includes cost effectiveness studies.

## 84 LAW, POLITICAL SCIENCE AND SPACE POLICY

Includes NASA appropriation hearings; aviation law; space law and policy; international law; international cooperation; and patent policy.

## 85 URBAN TECHNOLOGY AND TRANSPORTATION

Includes applications of space technology to urban problems; technology transfer; technology assessment; and surface and mass transportation.

For related information see *03 Air Transportation and Safety*, *16 Space Transportation*, and *44 Energy Production and Conversion*.

## SPACE SCIENCES

Includes space sciences (general); astronomy; astrophysics; lunar and planetary exploration; solar physics; and space radiation.

For related information see also *Geosciences*.

## 88 SPACE SCIENCES (GENERAL)

## 89 ASTRONOMY

Includes radio, gamma-ray, and infrared astronomy; and astrometry.

## 90 ASTROPHYSICS

Includes cosmology; celestial mechanics; space plasmas; and interstellar and interplanetary gases and dust.

For related information see also *75 Plasma Physics*.

## 91 LUNAR AND PLANETARY EXPLORATION

Includes planetology; and manned and unmanned flights.

For spacecraft design or space stations see *18 Spacecraft Design, Testing and Performance*.

## 92 SOLAR PHYSICS

Includes solar activity, solar flares, solar radiation and sunspots.

For related information see *93 Space Radiation*.

## 93 SPACE RADIATION

Includes cosmic radiation; and inner and outer earth's radiation belts.

For biological effects of radiation see *52 Aerospace Medicine*. For theory see *73 Nuclear and High-Energy Physics*.

## GENERAL

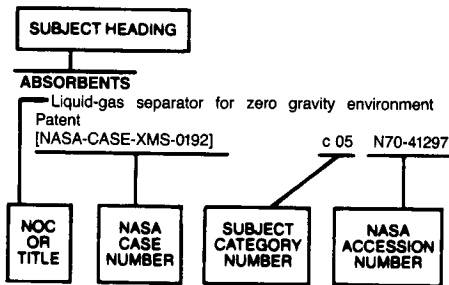
Includes aeronautical, astronautical, and space science related histories, biographies, and pertinent reports too broad for categorization; histories or broad overviews of NASA programs.

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### Typical Subject Index Listing



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## A

### ABERRATION

High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898

### ABILITIES

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Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075

Hypersonic test facility Patent  
[NASA-CASE-XLA-00378] c 11 N71-15925

Hypersonic test facility Patent  
[NASA-CASE-XLA-05378] c 11 N71-21475

Ablation sensor Patent  
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Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991

Ablative system  
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### ABLATIVE MATERIALS

Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322

Ablation sensor  
[NASA-CASE-XLA-01781] c 14 N69-39975

Method for molding compounds Patent  
[NASA-CASE-XLA-01091] c 15 N71-10672

Ablative resin Patent  
[NASA-CASE-XLE-05913] c 33 N71-14032

Ablation structures Patent  
[NASA-CASE-XMS-01816] c 33 N71-15623

Method and apparatus for making a heat insulating and ablative structure Patent  
[NASA-CASE-XMS-02009] c 33 N71-20834

Thermal protection ablation spray system Patent  
[NASA-CASE-XLA-04251] c 18 N71-26100

Stand-off type ablative heat shield  
[NASA-CASE-MS-12143-1] c 33 N72-17947

### Ablative system

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### Ablative system

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### Ablation article and method

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### Dual measurement ablation sensor

[NASA-CASE-LAR-10105-1] c 34 N74-15652

Sprayable low density ablator and application process  
[NASA-CASE-MFS-23506-1] c 24 N78-24290

Intumescent-ablator coatings using endothermic fillers  
[NASA-CASE-ARC-11043-1] c 24 N78-27180

Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388

Controlled overspray spray nozzle  
[NASA-CASE-MFS-25139-1] c 34 N82-13376

### ABORT APPARATUS

Coupling for linear shaped charge Patent  
[NASA-CASE-XLA-00189] c 33 N70-36846

### ABRASION

Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540

### ABRASION RESISTANCE

Potassium silicate zinc coatings  
[NASA-CASE-GSC-10361-1] c 18 N72-23581

Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854

Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371

Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MS-18382-1] c 27 N82-16238

Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MS-18382-2] c 27 N84-14324

### ABRASIVES

Method for machining holes in composite materials  
[NASA-CASE-MFS-28044-1] c 31 N87-25491

### ABSORBENTS

Liquid-gas separator for zero gravity environment Patent  
[NASA-CASE-XMS-01492] c 05 N70-41297

Fluid flow control valve Patent  
[NASA-CASE-XLE-00703] c 15 N71-15967

Noncontaminating swabs  
[NASA-CASE-MFS-18100] c 15 N72-11390

Protein sterilization method of firefly luciferase using reduced pressure and molecular sieves  
[NASA-CASE-GSC-10225-1] c 06 N73-27086

Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-2] c 27 N77-31308

Absorbent product and articles made therefrom  
[NASA-CASE-MS-18223-2] c 54 N84-11758

### ABSORBERS (EQUIPMENT)

Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MS-18223-1] c 24 N82-29362

Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982

### ABSORBERS (MATERIALS)

Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462

Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c 06 N71-13461

Filter system for control of outgas contamination in vacuum Patent  
[NASA-CASE-MFS-14711] c 15 N71-26185

Constant temperature heat sink for calorimeters Patent  
[NASA-CASE-XMF-04208] c 33 N71-29051

Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c 27 N77-30236

Electromagnetic power absorber  
[NASA-CASE-NPO-13830-1] c 32 N80-14281

Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953

### ABSORPTION

Differential optoacoustic absorption detector  
[NASA-CASE-NPO-13759-1] c 74 N78-17867

Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1-CU] c 35 N86-29174

### ABSORPTION COOLING

Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159

### ABSORPTION CROSS SECTIONS

Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MS-12280] c 27 N71-16348

### ABSORPTION SPECTRA

Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159

Method and apparatus for enhancing laser absorption sensitivity  
[NASA-CASE-NPO-16567-1-CU] c 36 N87-28006

### ABSORPTION SPECTROSCOPY

Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264

### ABSORPTIVITY

Detector absorptivity measuring method and apparatus  
[NASA-CASE-LAR-10907-1] c 35 N76-29551

Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875

### AC GENERATORS

Signal generator  
[NASA-CASE-XNP-05612] c 09 N69-21468

Superconducting alternator  
[NASA-CASE-XLE-02824] c 03 N69-39890

Superconducting alternator Patent  
[NASA-CASE-XLE-02823] c 09 N71-23443

Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319

Coupling an induction motor type generator to ac power lines --- making windmill generators compatible with public power lines  
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### ACCELERATION

Single grid accelerator for an ion thruster  
[NASA-CASE-XLE-10453-2] c 28 N73-27699

### ACCELERATION (PHYSICS)

Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815

Gravity device Patent  
[NASA-CASE-XMF-00424] c 11 N70-38196

Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c 31 N71-21881

Active vibration isolator for flexible bodies Patent  
[NASA-CASE-LAR-10106-1] c 15 N71-27169

Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c 09 N74-30597

G-load measuring and indicator apparatus  
[NASA-CASE-ARC-10806-1] c 35 N75-29381

Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806

### ACCELERATION PROTECTION

Universal pilot restraint suit and body support therefor Patent  
[NASA-CASE-XAC-00405] c 05 N70-41819

G conditioning suit Patent  
[NASA-CASE-XLA-02898] c 05 N71-20268

### ACCELERATION STRESSES (PHYSIOLOGY)

Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c 31 N71-21881

### ACCELERATION TOLERANCE

Peak acceleration limiter for vibrational tester Patent  
[NASA-CASE-NPO-10556] c 14 N71-27185

### ACCELERATORS

Annular arc accelerator shock tube  
[NASA-CASE-NPO-13528-1] c 09 N77-10071

Spring operated accelerator and constant force spring mechanism therefor  
[NASA-CASE-ARC-10898-1] c 35 N77-18417

### ACCELEROMETERS

Superconductive accelerometer Patent  
[NASA-CASE-XMF-01099] c 14 N71-15969

## ACCEPTABILITY

- Apparatus for controlling the velocity of an electromechanical drive for interferometers and the like Patent  
[NASA-CASE-XGS-03532] c 14 N71-17627
- Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c 14 N71-30265
- Angular velocity and acceleration measuring apparatus  
[NASA-CASE-ERC-10292] c 14 N72-25410
- Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c 35 N74-15094
- Accelerometer telemetry system  
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- ACCEPTABILITY**  
Cross correlation anomaly detection system  
[NASA-CASE-NPO-13283] c 38 N78-17395
- ACCEPTOR MATERIALS**  
III-V photocathode with nitrogen doping for increased quantum efficiency  
[NASA-CASE-NPO-12134-1] c 33 N76-31409
- ACCIDENT PREVENTION**  
CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040
- ACCOMMODATION**  
Visual accommodation trainer-tester  
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- Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-2] c 52 N89-16256
- ACCUMULATORS**  
Direct radiation cooling of the collector of linear beam tubes  
[NASA-CASE-XNP-09227] c 15 N69-24319
- Small rocket engine Patent  
[NASA-CASE-XLE-00685] c 28 N70-41992
- Small plasma probe Patent  
[NASA-CASE-XLE-02578] c 25 N71-20747
- Electrostatic collector for charged particles  
[NASA-CASE-LEW-11192-1] c 09 N73-13208
- Accumulator  
[NASA-CASE-MFS-19287-1] c 34 N77-30399
- Method for fabricating solar cells having integrated collector grits  
[NASA-CASE-LEW-12819-2] c 44 N79-18444
- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711
- Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740
- Sweat collection capsule  
[NASA-CASE-ARC-11031-1] c 52 N81-29763
- Multistage depressed collector for dual mode operation --- for microwave transmitting tubes  
[NASA-CASE-LEW-13282-1] c 33 N82-24415
- Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489
- ACETALS**  
Synthesis of polymeric schiff bases by reaction of acetals and amine compounds Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243
- ACETATES**  
Thermoplastic rubber comprising ethylene-vinyl acetate copolymer, asphalt and fluxing oil  
[NASA-CASE-NPO-08835-1] c 27 N78-33228
- ACETYL COMPOUNDS**  
Phenoxy resins containing pendent ethynyl groups and cured resins obtained therefrom  
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- ACETYLENE**  
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[NASA-CASE-XNP-03250] c 06 N71-23500
- Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040
- Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof  
[NASA-CASE-LAR-13318-1] c 27 N87-14516
- Ethynyl terminated ester oligomers and polymers therefrom  
[NASA-CASE-LAR-13118-2] c 27 N87-16907
- ACOUSTIC ATTENUATION**  
Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity  
[NASA-CASE-LAR-11435-1] c 35 N76-15432
- Acoustic guide for noise-transmission testing of aircraft  
[NASA-CASE-LAR-13111-1-CU] c 71 N87-21652
- ACOUSTIC DUCTS**  
Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418
- ACOUSTIC EMISSION**  
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- ACOUSTIC IMPEDANCE**  
Method for detecting hydrogen gas  
[NASA-CASE-XMF-03873] c 06 N69-39733
- Acoustic ground impedance meter  
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- Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145
- Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618
- ACOUSTIC LEVITATION**  
Method and apparatus for shaping and enhancing acoustical levitation forces  
[NASA-CASE-MFS-25050-1] c 71 N81-15767
- Acoustic levitation methods and apparatus  
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- System for controlled acoustic rotation of objects  
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- Acoustic suspension system  
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- Stabilization and oscillation of an acoustically levitated object  
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[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422
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[NASA-CASE-LAR-11476-1] c 07 N76-27232
- Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867
- Pseudo continuous wave instrument --- ultrasonics  
[NASA-CASE-LAR-12260-1] c 35 N79-10390
- System for monitoring physical characteristics of fluids  
[NASA-CASE-NPO-15400-1] c 34 N83-31993
- Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933
- Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
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- Ultrasonic depth gauge for liquids under high pressure  
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- Acoustical transducer calibrating system and apparatus  
[NASA-CASE-FRC-10060-1] c 14 N73-27379
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- Acoustic radiation stress measurement  
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- ACOUSTICAL HOLOGRAPHY**  
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[NASA-CASE-LAR-12633-1] c 33 N82-24416
- Acoustic rotation control  
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Apparatus for testing wiring harness by vibration generating means  
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- Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c 35 N77-14411
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- Stark cell optoacoustic detection of constituent gases in sample  
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- Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
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- Method of making emf cell  
[NASA-CASE-LEW-11359-2] c 03 N72-20034
- ACTION**  
Magnetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404
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Cryogenic gyroscope housing --- with annular disks for gas spin-up  
[NASA-CASE-MFS-21136-1] c 35 N74-18323
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- Gas actuated bolt disconnect Patent  
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- Hermetically sealed explosive release mechanism Patent  
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- Burst diaphragm flow initiator Patent  
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- Mechanical actuator Patent  
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- Telemetry actuated switch  
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- Actuator mechanism  
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- Electrical servo actuator bracket --- fuel control valves on jet engines  
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- Solar powered actuator with continuously variable auxiliary power control  
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- Memory metal actuator  
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[NASA-CASE-LAR-12852-1] c 05 N89-11738
- ADAPTATION**  
Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348
- ADAPTERS**  
Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474
- Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333
- ADAPTIVE CONTROL**  
Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633
- Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136
- Ergometer  
[NASA-CASE-MFS-21109-1] c 05 N73-27941
- Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c 62 N74-14920
- Adaptive polarization separation  
[NASA-CASE-LAR-12196-1] c 33 N81-26358
- Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493
- Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953
- Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227
- ADAPTIVE FILTERS**  
Adaptive tracking notch filter system Patent  
[NASA-CASE-XMF-01892] c 10 N71-22986
- Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493
- ADAPTIVE OPTICS**  
Fluorescent radiation converter  
[NASA-CASE-GSC-12528-1] c 74 N81-24900
- ADDING CIRCUITS**  
Full binary adder Patent  
[NASA-CASE-XGS-00689] c 08 N70-34787
- Automatic fault correction system for parallel signal channels Patent  
[NASA-CASE-XNP-03263] c 09 N71-18843
- ADDITION RESINS**  
Tackifier for addition polyimides containing monoethylphthalate  
[NASA-CASE-LAR-12642-1] c 27 N81-29229
- ADDITIVES**  
Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c 27 N71-14090
- Sewage sludge additive  
[NASA-CASE-NPO-13877-1] c 45 N82-11634
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451
- Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358
- ADDRESSING**  
Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992
- ADENOSINE TRIPHOSPHATE**  
Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487
- Light detection instrument Patent  
[NASA-CASE-XGS-05534] c 23 N71-16355
- Lyophilized reaction mixtures Patent  
[NASA-CASE-XGS-05532] c 06 N71-17705
- Automatic instrument for chemical processing to detect microorganism in biological samples by measuring light reactions  
[NASA-CASE-GSC-11169-2] c 05 N73-32011
- Application of luciferase assay for ATP to antimicrobial drug susceptibility  
[NASA-CASE-GSC-12039-1] c 51 N77-22794
- Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569
- ADHESION**  
Stud-bonding gun  
[NASA-CASE-MFS-20299] c 15 N72-11392
- Improved refractory coatings --- sputtered coatings on substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209
- Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371
- ADHESION TESTS**  
Apparatus for the determination of the existence or non-existence of a bonding between two members Patent  
[NASA-CASE-MFS-13686] c 15 N71-18132
- ADHESIVE BONDING**  
Solar cell mounting Patent  
[NASA-CASE-XNP-00826] c 03 N71-20895
- Honeycomb panel and method of making same Patent  
[NASA-CASE-XMF-01402] c 18 N71-21651
- Etching of aluminum for bonding Patent  
[NASA-CASE-XMF-02303] c 17 N71-23828
- Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-XFR-07658-1] c 05 N71-26293
- Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c 37 N75-15992
- Weld-bonded titanium structures  
[NASA-CASE-LAR-11549-1] c 37 N77-11397
- Method of adhering bone to a rigid substrate using a graphite fiber reinforced bone cement  
[NASA-CASE-NPO-13764-1] c 27 N78-17215
- Thermal barrier coating system  
[NASA-CASE-LEW-12554-1] c 34 N78-18355
- Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221
- Surface finishing  
[NASA-CASE-MSC-12631-3] c 27 N81-14077
- Method of bonding plasticized elastomer to metal and articles produced thereby  
[NASA-CASE-MFS-25181-1] c 27 N82-24340
- Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855
- Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807
- Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125
- High temperature polyimide film laminates and process for preparation thereof  
[NASA-CASE-LAR-13384-1] c 27 N86-20561
- Method of attaching strain gauges to various materials  
[NASA-CASE-LAR-13797-1] c 35 N88-30108
- ADHESIVES**  
Polyimide adhesives  
[NASA-CASE-LAR-11397-1] c 27 N75-29263
- Polyimide adhesives  
[NASA-CASE-LAR-12181-1] c 27 N78-17205
- Crystalline polyimides --- reinforcing fibers for high temperature composites and adhesives as well as flame retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158
- Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206
- Elastomer toughened polyimide adhesives  
[NASA-CASE-LAR-12775-1] c 27 N83-28240
- Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12861-1] c 27 N84-14323
- Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349
- ADJUSTING**  
Instrument support with precise lateral adjustment Patent  
[NASA-CASE-XMF-00480] c 14 N70-39898
- Fine adjustment mount  
[NASA-CASE-MFS-20249] c 15 N72-11386
- Adjustable support  
[NASA-CASE-NPO-10721] c 15 N72-27484
- Clock setter  
[NASA-CASE-LAR-11458-1] c 35 N76-16392
- Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982
- AERIAL RUDDERS**  
Thrust augmented spin recovery device  
[NASA-CASE-LAR-11970-2] c 08 N81-19130
- AEROACOUSTICS**  
Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107
- AERODYNAMIC BALANCE**  
Airplane automatic control force trimming device for asymmetric engine failures  
[NASA-CASE-LAR-13280-1] c 08 N87-20999
- AERODYNAMIC BRAKES**  
Annular supersonic decelerator or drogue Patent  
[NASA-CASE-XLE-00222] c 02 N70-37939
- Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c 02 N74-10034
- AERODYNAMIC CHARACTERISTICS**  
Variable sweep wing aircraft Patent  
[NASA-CASE-XLA-00221] c 02 N70-33266
- Flight craft Patent  
[NASA-CASE-XAC-02058] c 02 N71-16087
- Space shuttle vehicle and system  
[NASA-CASE-MSC-12433] c 31 N73-14854
- Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAW-1 airfoil  
[NASA-CASE-LAR-10585-1] c 02 N76-22154
- Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999
- AERODYNAMIC CONFIGURATIONS**  
Variable-span aircraft Patent  
[NASA-CASE-XLA-00166] c 02 N70-34178
- Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858
- Space capsule Patent  
[NASA-CASE-XLA-00149] c 31 N70-37938
- Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c 31 N70-41631
- Translating horizontal tail Patent  
[NASA-CASE-XLA-08801-1] c 02 N71-11043
- Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674
- Nacelle afterbody for jet engines Patent  
[NASA-CASE-XLA-10450] c 28 N71-21493
- Variable geometry rotor system  
[NASA-CASE-LAR-10557] c 02 N72-11018
- Ferry system  
[NASA-CASE-LAR-10574-1] c 11 N73-13257
- Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMF-02263] c 05 N74-10907
- Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c 07 N74-28226
- Free wing assembly for an aircraft  
[NASA-CASE-FRC-10092-1] c 05 N79-12061
- Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765
- Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628
- AERODYNAMIC DRAG**  
Skin friction measuring device for aircraft  
[NASA-CASE-FRC-11029-1] c 06 N81-17057
- AERODYNAMIC HEATING**  
Heat protection apparatus Patent  
[NASA-CASE-XLA-00892] c 33 N71-17897
- Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085
- Stand-off type ablative heat shield  
[NASA-CASE-MSC-12143-1] c 33 N72-17947
- AERODYNAMIC INTERFERENCE**  
Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828
- Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765
- AERODYNAMIC LOADS**  
Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c 02 N70-34856
- Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279
- Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828

## AERODYNAMIC NOISE

- Apparatus for reducing aerodynamic noise in a wind tunnel  
[NASA-CASE-MFS-23099-1] c 09 N76-23273  
Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107  
Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999

## AERODYNAMIC STABILITY

- Meteorological balloon Patent  
[NASA-CASE-XMF-04163] c 02 N71-23007  
Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387  
Emergency earth orbital escape device  
[NASA-CASE-MSC-13281] c 31 N72-18859  
High lift aircraft --- with improved stability, control, performance, and noise characteristics  
[NASA-CASE-LAR-11252-1] c 05 N75-25914  
Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029  
Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277  
Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12720-1] c 44 N83-21504  
Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N67-16626  
Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628

## AERODYNAMIC STALLING

- Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-13236-1] c 02 N81-14968

## AEROELASTICITY

- Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12458-1] c 44 N83-21503  
Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12720-1] c 44 N83-21504

## AERONAUTICAL ENGINEERING

- Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816

## AEROSOLS

- Liquid aerosol dispenser  
[NASA-CASE-MFS-20829] c 12 N72-21310  
Particulate and aerosol detector  
[NASA-CASE-LAR-11434-1] c 35 N76-22509  
Thermoluminescent aerosol analysis  
[NASA-CASE-LAR-12046-1] c 25 N78-15210  
Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184  
Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255

## AEROSPACE ENGINEERING

- Solar cell including second surface mirrors Patent  
[NASA-CASE-NPO-10109] c 03 N71-11049  
Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-10337] c 15 N71-24046  
Soldering device Patent  
[NASA-CASE-XLA-08911] c 15 N71-27214  
Installing fiber insulation  
[NASA-CASE-MSC-16973-1] c 37 N81-14317

## AEROSPACE ENVIRONMENTS

- Electrostatic thruster with improved insulators Patent  
[NASA-CASE-XLE-01902] c 28 N71-10574  
Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-01765] c 18 N71-10772  
Inorganic solid film lubricants Patent  
[NASA-CASE-XMF-03988] c 15 N71-21403  
Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c 14 N71-22990  
Alloys for bearings Patent  
[NASA-CASE-XLE-05033] c 15 N71-23810  
Method and apparatus for varying thermal conductivity Patent  
[NASA-CASE-XNP-05524] c 33 N71-24876  
Space simulator Patent  
[NASA-CASE-NPO-10141] c 11 N71-24964  
Cyclic switch Patent  
[NASA-CASE-LEW-10155-1] c 09 N71-29035  
Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804  
Wobble gear drive mechanism --- for aerospace environments  
[NASA-CASE-WOO-00625] c 37 N78-17385  
Plasma cleaning device --- designed for high vacuum environments  
[NASA-CASE-MFS-22906-1] c 75 N78-27913  
Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262  
General purpose rocket furnace  
[NASA-CASE-MFS-23460-1] c 12 N79-26075  
Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283

- Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679  
Method of making a flexible diaphragm  
[NASA-CASE-MSC-20797-1] c 37 N87-23981  
Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828  
Gas particle radiator  
[NASA-CASE-LEW-14297-1] c 35 N89-12048  
Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843

## AEROSPACE MEDICINE

- Instrument for use in performing a controlled Valsalva maneuver Patent  
[NASA-CASE-XMS-01615] c 05 N70-41329  
Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721

## AEROSPACE PLANES

- Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMF-02263] c 05 N74-10907

## AEROSPACE VEHICLES

- Landing arrangement for aerial vehicles Patent  
[NASA-CASE-XLA-00142] c 02 N70-33286  
Landing pad assembly for aerospace vehicles Patent  
[NASA-CASE-XMF-02853] c 31 N70-36654  
Landing arrangement for aerospace vehicle Patent  
[NASA-CASE-XLA-00805] c 31 N70-38010  
Flexibly connected support and skin Patent  
[NASA-CASE-XLA-01027] c 31 N71-24035  
Nondestructive spot test method for titanium and titanium alloys  
[NASA-CASE-LAR-10539-1] c 17 N73-12547  
Aerospace vehicle  
[NASA-CASE-LAR-13155-1] c 05 N86-19310

## AFTERBODIES

- Nacelle afterbody for jet engines Patent  
[NASA-CASE-XLA-10450] c 28 N71-21493  
Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231

## AFTERBURNING

- Nozzle Patent  
[NASA-CASE-XLA-00154] c 28 N70-33374

## AGGLOMERATION

- Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

## AGING (MATERIALS)

- Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236

## AGRICULTURE

- Solar-powered pump  
[NASA-CASE-NPO-13567-1] c 44 N76-29701

## AILERONS

- Control device Patent  
[NASA-CASE-XAC-10019] c 15 N71-23809

## AIR

- Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080  
Superconductive magnetic-field-trapping device  
[NASA-CASE-XNP-01185] c 26 N73-28710  
Solid sorbent air sampler  
[NASA-CASE-MSC-20653-1] c 35 N86-26595

## AIR BREATHING ENGINES

- Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800

## AIR CONDITIONING

- Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
[NASA-CASE-GSC-12191-1] c 31 N80-32583  
Automotive absorption air conditioner utilizing solar and motor waste heat  
[NASA-CASE-NPO-15183-1] c 44 N82-26776  
Air modulation apparatus  
[NASA-CASE-LEW-13524-1] c 07 N84-33410

## AIR CONDITIONING EQUIPMENT

- Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721  
Air conditioning system and component therefore distributing air flow from opposite directions  
[NASA-CASE-GSC-11445-1] c 31 N74-27902

## AIR COOLING

- Modification and improvements to cooled blades Patent  
[NASA-CASE-XLE-00092] c 15 N70-33264  
Acoustic convective system  
[NASA-CASE-NPO-12728-1-CU] c 31 N88-24818

## AIR FILTERS

- Gas filter mounting structure  
[NASA-CASE-MSC-12297] c 14 N72-23457

## AIR FLOW

- Wind tunnel airstream oscillating apparatus Patent  
[NASA-CASE-XLA-00112] c 11 N70-33287

- Method of obtaining permanent record of surface flow phenomena Patent  
[NASA-CASE-XLA-01353] c 14 N70-41366  
Gas turbine combustor Patent  
[NASA-CASE-LEW-10286-1] c 28 N71-28915  
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10612-1] c 12 N73-28144  
Air conditioning system and component therefore distributing air flow from opposite directions  
[NASA-CASE-GSC-11445-1] c 31 N74-27902  
Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LEW-11593-1] c 20 N76-14190  
Method and apparatus for fluffing, separating, and cleaning fibers  
[NASA-CASE-LAR-11224-1] c 37 N76-18456  
Smoke generator  
[NASA-CASE-ARC-10905-1] c 37 N77-13418  
Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384  
Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089  
Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366  
Vapor fragrances  
[NASA-CASE-LAR-13680-1] c 35 N67-25561  
Acoustic convective system  
[NASA-CASE-NPO-12728-1-CU] c 31 N88-24818  
Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232

## AIR INTAKES

- Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981  
Reversed cowl flap inlet thrust augmentor --- with adjustable airfoil  
[NASA-CASE-ARC-10754-1] c 07 N75-24736  
Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976  
Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999  
Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603

## AIR LOCKS

- Spacecraft airlock Patent  
[NASA-CASE-XLA-02050] c 31 N71-22968  
Thruster maintenance system Patent  
[NASA-CASE-MFS-20325] c 28 N71-27095  
An airlock  
[NASA-CASE-MFS-20922] c 31 N72-20840  
Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136  
Apparatus for inserting and removing specimens from high temperature vacuum furnaces  
[NASA-CASE-LAR-10841-1] c 31 N74-27900

## AIR NAVIGATION

- Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047  
Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132

## AIR POLLUTION

- Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c 06 N71-13461  
Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922  
Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c 35 N74-11284  
Fluorescence detector for monitoring atmospheric pollutants  
[NASA-CASE-NPO-13231-1] c 45 N75-27585  
Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656  
Indicator providing continuous indication of the presence of a specific pollutant in air  
[NASA-CASE-NPO-13474-1] c 45 N76-21742  
Method for detecting pollutants --- through chemical reactions and heat treatment  
[NASA-CASE-LAR-11405-1] c 45 N76-31714  
Combustion engine --- for air pollution control  
[NASA-CASE-NPO-13671-1] c 37 N77-31497  
Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527

## AIR PURIFICATION

- High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588  
Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721  
Cell and method for electrolysis of water and anode  
[NASA-CASE-MSC-16394-1] c 28 N81-24280

## AIR QUALITY

- Vapor fragrances  
[NASA-CASE-LAR-13680-1] c 35 N87-25561



## AIR SAMPLING

- Aerodynamic measuring device Patent  
[NASA-CASE-XLA-00481] c 14 N70-36824
- Sampler of gas borne particles  
[NASA-CASE-NPO-13396-1] c 35 N76-18401
- Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407
- Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217

## AIR START

- Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599

## AIR TRAFFIC CONTROL

- Traffic control system and method Patent  
[NASA-CASE-GSC-10087-1] c 02 N71-19287
- Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948
- Position location system and method  
[NASA-CASE-GSC-10087-3] c 07 N72-12080
- Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

## AIR TRANSPORTATION

- Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

## AIRBORNE EQUIPMENT

- Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063
- Airborne tracking sunphotometer apparatus and system  
[NASA-CASE-ARC-11622-1] c 44 N88-14492

## AIRBORNE/SPACEBORNE COMPUTERS

- Ripple add and ripple subtract binary counters Patent  
[NASA-CASE-XGS-04766] c 08 N71-18602
- Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c 60 N76-21914

## AIRCRAFT

- System for indicating direction of intruder aircraft  
[NASA-CASE-ERC-10226-1] c 14 N73-16483
- Thin conformal antenna array for microwave power conversions  
[NASA-CASE-NPO-13886-1] c 32 N78-24391
- System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

## AIRCRAFT ACCIDENTS

- Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948

## AIRCRAFT ANTENNAS

- Spiral slotted phased antenna array  
[NASA-CASE-MS-C-18532-1] c 32 N82-27558

## AIRCRAFT COMPARTMENTS

- Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184

## AIRCRAFT CONFIGURATIONS

- Variable sweep wing configuration Patent  
[NASA-CASE-XLA-00230] c 02 N70-33255
- Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c 09 N71-19449
- Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c 02 N73-26005
- Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136
- Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628

## AIRCRAFT CONSTRUCTION MATERIALS

- Fuselage structure using advanced technology fiber reinforced composites  
[NASA-CASE-LAR-11688-1] c 24 N82-26384
- Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450
- Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N88-24753

## AIRCRAFT CONTROL

- Control for flexible parawing Patent  
[NASA-CASE-XLA-06958] c 02 N71-11038
- Attitude controls for VTOL aircraft Patent  
[NASA-CASE-XAC-08972] c 02 N71-20570
- Control device Patent  
[NASA-CASE-XAC-10019] c 15 N71-23809
- Direct lift control system Patent  
[NASA-CASE-LAR-10249-1] c 02 N71-26110
- High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088
- Mechanically limited, electrically operated hydraulic valve system for aircraft controls Patent  
[NASA-CASE-XAC-00048] c 02 N71-29128
- Flight control system  
[NASA-CASE-MS-C-13397-1] c 21 N72-25595

## Aircraft control system

- [NASA-CASE-ERC-10439] c 02 N73-19004
- Display system  
[NASA-CASE-ERC-10350] c 14 N73-20474
- Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004
- Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-12930
- High lift aircraft --- with improved stability, control, performance, and noise characteristics  
[NASA-CASE-LAR-11252-1] c 05 N75-25914
- Filtering technique based on high-frequency plant modeling for high-gain control  
[NASA-CASE-LAR-12215-1] c 08 N79-23097
- Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106
- Pitch attitude stabilization system utilizing engine pressure ratio feedback signals  
[NASA-CASE-LAR-12562-1] c 08 N81-26152
- Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985
- Airplane automatic control force trimming device for asymmetric engine failures  
[NASA-CASE-LAR-13280-1] c 08 N87-20999
- Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678
- Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628
- High performance forward swept wing aircraft  
[NASA-CASE-ARC-11636-1] c 05 N88-28914

## AIRCRAFT DESIGN

- Supersonic aircraft Patent  
[NASA-CASE-XLA-04451] c 02 N71-12243
- Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c 02 N73-26005
- Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMF-02263] c 05 N74-10907
- High lift aircraft --- with improved stability, control, performance, and noise characteristics  
[NASA-CASE-LAR-11252-1] c 05 N75-25914
- Oblique-wing supersonic aircraft  
[NASA-CASE-ARC-10470-3] c 05 N76-29217
- Supersonic transport --- using canard surfaces  
[NASA-CASE-LAR-11932-1] c 05 N78-32086
- Shapes for rotating airfoils  
[NASA-CASE-LAR-12396-1] c 02 N84-28732
- Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793
- Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765
- Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29789

## AIRCRAFT DETECTION

- Altitude measuring system  
[NASA-CASE-ERC-10412-1] c 09 N73-12211
- Apparatus for measuring an aircraft's speed and height  
[NASA-CASE-LAR-12275-1] c 35 N79-18296

## AIRCRAFT ENGINES

- Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418
- Dual cycle aircraft turbine engine  
[NASA-CASE-LAR-11310-1] c 07 N77-28118
- Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599
- Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392
- Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808
- Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650

## AIRCRAFT EQUIPMENT

- Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437
- Air speed and altitude probe  
[NASA-CASE-FRC-11009-1] c 06 N80-18036
- Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114
- System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075
- Piezoelectric deicing device  
[NASA-CASE-LEW-13773-2] c 33 N86-20671

- Fire resistant polyamide based on 1-(diorganooxyphosphonyl)methyl-2,4- and -2,6diamino benzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568
- Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083
- Control surface actuator  
[NASA-CASE-LAR-12852-1] c 05 N89-11738

## AIRCRAFT FUEL SYSTEMS

- Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12321-1] c 37 N78-10467

## AIRCRAFT GUIDANCE

- Terminal guidance system --- for guiding aircraft into preselected altitude and/or heading at terminal point  
[NASA-CASE-FRC-10049-1] c 04 N74-13420
- Sun sensing guidance system for high altitude aircraft  
[NASA-CASE-FRC-11052-1] c 04 N82-23231

## AIRCRAFT HAZARDS

- Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788

## AIRCRAFT HYDRAULIC SYSTEMS

- Gas turbine engine fuel control  
[NASA-CASE-LEW-11187-1] c 28 N73-19793
- Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205
- Control surface actuator  
[NASA-CASE-LAR-12852-1] c 05 N89-11738

## AIRCRAFT INSTRUMENTS

- Airplane take-off performance indicator Patent  
[NASA-CASE-XLA-00100] c 14 N70-36807
- Aerodynamic measuring device Patent  
[NASA-CASE-XLA-00481] c 14 N70-36824
- Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157
- Optical projector system Patent  
[NASA-CASE-XNP-03853] c 23 N71-21882
- Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268
- Head-up attitude display  
[NASA-CASE-ERC-10392] c 21 N73-14692
- G-load measuring and indicator apparatus  
[NASA-CASE-ARC-10806-1] c 35 N75-29381
- Magnetic heading reference  
[NASA-CASE-LAR-11387-1] c 04 N76-20114
- Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MFS-16609-3] c 03 N76-32140
- Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733
- System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

## AIRCRAFT LANDING

- Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858
- Magnetic position detection method and apparatus  
[NASA-CASE-ARC-10179-1] c 21 N72-22619
- Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-12930
- Vehicle simulator binocular multiplanar visual display system  
[NASA-CASE-ARC-10808-1] c 09 N76-24280
- Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083
- Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212

## AIRCRAFT LAUNCHING DEVICES

- Rotating launch device for a remotely piloted aircraft  
[NASA-CASE-ARC-10979-1] c 09 N77-19076

## AIRCRAFT MANEUVERS

- G-load measuring and indicator apparatus  
[NASA-CASE-ARC-10806-1] c 35 N75-29381

## AIRCRAFT MODELS

- Test unit free-flight suspension system Patent  
[NASA-CASE-XLA-00939] c 11 N71-15926
- Variable geometry wind tunnels  
[NASA-CASE-XLA-07430] c 11 N72-22246
- Deploy/release system --- model aircraft flight control  
[NASA-CASE-LAR-11575-1] c 02 N76-16014

## AIRCRAFT NOISE

- Instrumentation for measuring aircraft noise and sonic boom  
[NASA-CASE-LAR-11476-1] c 07 N76-27232
- Acoustic guide for noise-transmission testing of aircraft  
[NASA-CASE-LAR-13111-1-CU] c 71 N87-21652

## AIRCRAFT PERFORMANCE

- Ferry system  
[NASA-CASE-LAR-10574-1] c 11 N73-13257
- Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621
- High performance forward swept wing aircraft  
[NASA-CASE-ARC-11636-1] c 05 N88-28914



## AIRCRAFT PILOTS

## AIRCRAFT PILOTS

Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c 09 N74-30597

## AIRCRAFT SAFETY

Airplane take-off performance indicator Patent  
[NASA-CASE-XLA-00100] c 14 N70-36807  
Display research collision warning system  
[NASA-CASE-HQN-10703] c 21 N73-13643  
Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421  
Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394  
Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982

## AIRCRAFT SPIN

Extended moment arm anti-spin device  
[NASA-CASE-LAR-12979-1] c 05 N85-21147  
Dual towline spin-recovery device  
[NASA-CASE-LAR-13076-1] c 08 N85-35200

## AIRCRAFT STABILITY

Mechanical stability augmentation system Patent  
[NASA-CASE-XLA-06339] c 02 N71-13422  
Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004  
High performance forward swept wing aircraft  
[NASA-CASE-ARC-11636-1] c 05 N88-28914

## AIRCRAFT STRUCTURES

Fatigue testing device Patent  
[NASA-CASE-XLA-02131] c 32 N70-42003  
Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085  
Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c 35 N74-13129  
Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c 27 N76-16230  
Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c 02 N77-10001  
Aircraft canopy lock  
[NASA-CASE-FRC-11065-1] c 05 N83-19737  
Metal matrix composite structural panel construction  
[NASA-CASE-LAR-12807-1] c 24 N84-11214  
Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349  
Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630  
Fire resistant polyamide based on 1-(diorganooxyphosphonyl)methyl-2,4- and -2,6-diamino benzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568  
The 1-((diorganooxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605  
Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650

## AIRCRAFT TIRES

Tire/wheel concept  
[NASA-CASE-LAR-11695-2] c 37 N81-24443

## AIRCRAFT WAKES

System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300

## AIRFOIL PROFILES

Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136

## AIRFOILS

Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-00755] c 01 N71-13410  
Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-05828] c 01 N71-13411  
Wind tunnel  
[NASA-CASE-LAR-10135-1] c 09 N79-21083  
Surface finishing  
[NASA-CASE-MS-C-12631-3] c 27 N81-14077  
Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334  
Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841  
High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

## AIRFRAMES

Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c 02 N73-26005  
Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114  
Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992

## AIRSPEED

Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858  
Apparatus for measuring an aircraft's speed and height  
[NASA-CASE-LAR-12275-1] c 35 N79-18296  
Air speed and attitude probe  
[NASA-CASE-FRC-11009-1] c 06 N80-18036  
Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295

## ALCOHOLS

Trifunctional alcohol  
[NASA-CASE-NPO-10714] c 06 N69-31244  
Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440  
Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144

## ALDEHYDES

Direct synthesis of polymeric schiff bases from two amines and two aldehydes Patent  
[NASA-CASE-XMF-08655] c 06 N71-11239  
Azine polymers and process for preparing the same Patent  
[NASA-CASE-XMF-08656] c 06 N71-11242  
Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
[NASA-CASE-XMF-03074] c 06 N71-24740  
Nuclear alkylated pyridine aldehyde polymers and conductive compositions thereof  
[NASA-CASE-NPO-10557] c 27 N78-17214  
Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188

## ALGORITHMS

Systolic VLSI array for implementing the Kalman filter Algorithm  
[NASA-CASE-NPO-17108-1-CU] c 33 N87-27926

## ALIGNMENT

Instrument support with precise lateral adjustment Patent  
[NASA-CASE-XMF-00480] c 14 N70-39898  
Portable alignment tool Patent  
[NASA-CASE-XMF-01452] c 15 N70-41371  
Optical alignment system Patent  
[NASA-CASE-XNP-02029] c 14 N70-41955  
Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent  
[NASA-CASE-XMF-00684] c 21 N71-21688  
Aligning and positioning device Patent  
[NASA-CASE-XMS-04178] c 15 N71-22798  
Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125  
Roll alignment detector  
[NASA-CASE-GSC-10514-1] c 14 N72-20379  
Zero gravity shadow shield aligner  
[NASA-CASE-KSC-10622-1] c 31 N72-21893  
Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c 16 N73-33397  
Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c 18 N76-14186  
Method of constructing dished ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276  
Optical alignment device  
[NASA-CASE-ARC-10932-1] c 74 N76-22993  
Precision alignment apparatus for cutting a workpiece  
[NASA-CASE-LAR-11658-1] c 37 N77-14478  
Guide for a typewriter  
[NASA-CASE-MFS-15218-1] c 37 N77-19457  
Rotary target V-block  
[NASA-CASE-LAR-12007-3] c 35 N84-16523  
Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650  
X-ray determination of parts alignment  
[NASA-CASE-MS-C-20418-1] c 74 N86-20126  
Simulator scene display evaluation device  
[NASA-CASE-ARC-11504-1] c 09 N86-32447  
Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982  
Alignment and assembly tool for very large diameter cylinders  
[NASA-CASE-MFS-28001-2] c 37 N88-14360  
Thermal compensating mount  
[NASA-CASE-LAR-13794-1] c 35 N88-24942  
Improved docking alignment system  
[NASA-CASE-MS-C-21372-1] c 35 N89-12842

## ALKALI HALIDES

Fire extinguishant materials  
[NASA-CASE-ARC-11252-1] c 25 N83-36118

## ALKALI METALS

Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979  
Analytical test apparatus and method for determining oxide content of alkali metal Patent  
[NASA-CASE-XLE-01997] c 06 N71-23527  
Alkali metal silicate protective coating Patent  
[NASA-CASE-XGS-04799] c 18 N71-24183  
Heat activated cell with alkali anode and alkali salt electrolyte Patent  
[NASA-CASE-LEW-11358] c 03 N71-26084  
Preparation of alkali metal dispersions  
[NASA-CASE-XNP-08876] c 17 N73-28573  
Process for preparing higher oxides of the alkali and alkaline earth metals  
[NASA-CASE-ARC-10992-1] c 26 N78-32229  
Alkali-metal silicate binders and methods of manufacture  
[NASA-CASE-GSC-12303-1] c 24 N79-31347  
Heat pipes containing alkali metal working fluid  
[NASA-CASE-LEW-12253-1] c 74 N83-19596  
Fire extinguishant materials  
[NASA-CASE-ARC-11252-1] c 25 N83-36118

## ALKALINE BATTERIES

Method for determining the state of charge of batteries by the use of tracers Patent  
[NASA-CASE-XNP-01484] c 03 N71-10729  
Electrochemical coulometer and method of forming same Patent  
[NASA-CASE-XGS-05434] c 03 N71-20491  
Electrocatalyst for oxygen reduction  
[NASA-CASE-HQN-10537-1] c 06 N72-10138  
Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530  
Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615  
Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641  
Separator for alkaline batteries and method of making same  
[NASA-CASE-GSC-10350-1] c 44 N82-24642  
Separator for alkaline electric cells and method of making  
[NASA-CASE-GSC-10017-1] c 44 N82-24643  
Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644  
Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370  
Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708  
Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176  
Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422  
Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144

## ALKALINE EARTH OXIDES

Process for preparing higher oxides of the alkali and alkaline earth metals  
[NASA-CASE-ARC-10992-1] c 26 N78-32229

## ALKYL COMPOUNDS

Fluorohydroxy ethers  
[NASA-CASE-MFS-10507] c 06 N73-30101  
Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744

## ALKYNES

High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523

## ALLOYS

Brazing alloy Patent  
[NASA-CASE-XNP-03063] c 17 N71-23365  
Alloys for bearings Patent  
[NASA-CASE-XLE-05033] c 15 N71-23810  
Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875  
Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123  
Enhanced diffusion welding  
[NASA-CASE-LEW-11388-1] c 15 N73-32358  
Brazing alloy binder  
[NASA-CASE-XMF-05868] c 26 N75-27125  
Brazing alloy  
[NASA-CASE-XNP-03878] c 26 N75-27127  
Castable hot corrosion resistant alloy  
[NASA-CASE-LEW-14134-2] c 26 N89-14303

**ALPHA PARTICLES**

Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334

**ALPHANUMERIC CHARACTERS**

X-Y alphanumeric character generator for oscilloscopes  
[NASA-CASE-GSC-11582-1] c 33 N75-19517

**ALTERNATING CURRENT**

Ac power amplifier Patent Application  
[NASA-CASE-LAR-10218-1] c 09 N70-34559  
Frequency control network for a current feedback oscillator Patent  
[NASA-CASE-GSC-10041-1] c 10 N71-19418  
Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317  
Switching circuit Patent  
[NASA-CASE-XNP-06505] c 10 N71-24799  
Pulse width inverter Patent  
[NASA-CASE-MFS-10068] c 10 N71-25139  
Inverter with means for base current shaping for sweeping charge carriers from base region Patent  
[NASA-CASE-XGS-06226] c 10 N71-25950  
A dc to ac to dc converter having transistor synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c 09 N72-25253  
Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c 33 N74-14956  
Solar cell system having alternating current output  
[NASA-CASE-LEW-12806-2] c 44 N81-12542  
Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395  
Non-contacting power transfer device  
[NASA-CASE-GSC-12595-1] c 33 N82-24422  
Motor power control circuit for ac induction motors  
[NASA-CASE-MFS-25323-1] c 33 N84-22886  
Coupling an induction motor type generator to ac power lines --- making windmill generators compatible with public power lines  
[NASA-CASE-MFS-25302-2] c 33 N84-33660  
Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661  
Power control for ac motor  
[NASA-CASE-MFS-25861-1] c 33 N85-22877  
Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083

**ALTIMETERS**

Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376

**ALTITUDE**

Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268

**ALTITUDE CONTROL**

Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c 15 N70-37925

**ALUMINUM**

Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443  
Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047  
Etching of aluminum for bonding Patent  
[NASA-CASE-XMF-02303] c 17 N71-23828  
Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142  
Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c 17 N71-24830  
Method of plating copper on aluminum Patent  
[NASA-CASE-XLA-08966-1] c 17 N71-25903  
Heat activated cell Patent  
[NASA-CASE-LEW-11359] c 03 N71-28579  
Method of making emf cell  
[NASA-CASE-LEW-11359-2] c 03 N72-20034  
Method of preparing graphite reinforced aluminum composite  
[NASA-CASE-MFS-21077-1] c 24 N75-28135  
Method of fluxless brazing and diffusion bonding of aluminum containing components  
[NASA-CASE-MSC-14435-1] c 37 N76-18455  
Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469  
Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119  
Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

**ALUMINUM ALLOYS**

Low temperature aluminum alloy Patent  
[NASA-CASE-XMF-02786] c 17 N71-20743  
Etching of aluminum for bonding Patent  
[NASA-CASE-XMF-02303] c 17 N71-23828

Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c 26 N78-24333  
Nical ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505  
Metal matrix composite structural panel construction  
[NASA-CASE-LAR-12807-1] c 24 N84-11214  
Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650  
Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N88-24753

**ALUMINUM COATINGS**

Nickel aluminide coated low alloy stainless steel  
[NASA-CASE-LEW-11267-1] c 17 N73-32414  
Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c 28 N74-33209  
Method of protecting the surface of a substrate --- by applying aluminide coating  
[NASA-CASE-LEW-11696-1] c 37 N75-13261  
Duplex aluminized coatings  
[NASA-CASE-LEW-11696-2] c 26 N75-19408  
Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c 35 N75-33367  
Method of protecting a surface with a silicon-slurry/aluminide coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441  
Silicon-slurry/aluminide coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795

**ALUMINUM COMPOUNDS**

Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977  
Fire extinguishant materials  
[NASA-CASE-ARC-11252-1] c 25 N83-36118

**ALUMINUM OXIDES**

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c 37 N75-15992  
Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c 24 N79-25143  
Method and technique for installing light-weight, fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-16934-3] c 24 N84-16262

**ALUMINUM SILICATES**

Inorganic thermal control pigment Patent  
[NASA-CASE-XNP-02139] c 18 N71-24184

**AMBIENT TEMPERATURE**

High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191

**AMIDES**

Preparation of heterocyclic block copolymer omega-diamidoximes  
[NASA-CASE-ARC-11060-1] c 27 N79-22300  
Method for preparing addition type polyimide prepolymers  
[NASA-CASE-LAR-12054-2] c 27 N81-14078

**AMINES**

Direct synthesis of polymeric schiff bases from two amines and two aldehydes Patent  
[NASA-CASE-XMF-08655] c 06 N71-11239  
Synthesis of polymeric schiff bases by reaction of acetals and amine compounds Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243  
Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c 27 N74-12812  
Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086  
Preparation of perfluorinated 1,2,4-oxadiazoles  
[NASA-CASE-ARC-11267-2] c 23 N82-28353  
Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039  
Metal (2) 4,4',4'' phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281  
Laminate comprising fibers embedded in cured amine terminated bis-imide  
[NASA-CASE-ARC-11421-3] c 24 N86-25416  
Amine terminated bisaspartamide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726  
Aminophenoxycyclotriphosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469  
Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692

**AMINO ACIDS**

Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844

**AMMONIA**

Solid state chemical source for ammonia beam maser Patent  
[NASA-CASE-XGS-01504] c 16 N70-41578

**AMMONIUM NITRATES**

High performance ammonium nitrate propellant  
[NASA-CASE-NPO-14260-1] c 28 N79-28342

**AMMONIUM PERCHLORATES**

Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c 27 N71-14090  
Process for the leaching of AP from propellant  
[NASA-CASE-NPO-14109-1] c 28 N80-23471

**AMORPHOUS MATERIALS**

Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005  
Apparatus for production of ultrapure amorphous metals utilizing acoustic cooling  
[NASA-CASE-NPO-15658-1] c 26 N86-32551  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

**AMPLIFICATION**

Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986  
Amplifier clamping circuit for horizon scanner Patent  
[NASA-CASE-XGS-01784] c 10 N71-20782  
Diversity receiving system with diversity phase lock Patent  
[NASA-CASE-XGS-01222] c 10 N71-20841  
Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256  
High voltage transistor amplifier with constant current load  
[NASA-CASE-NPO-11023] c 09 N72-17155  
Independent gain and bandwidth control of a traveling wave maser  
[NASA-CASE-NPO-13801-1] c 36 N78-18410  
Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179  
Automatic level control circuit  
[NASA-CASE-KSC-11170-1] c 33 N83-36356

**AMPLIFIER DESIGN**

Automatic gain control system  
[NASA-CASE-XMS-05307] c 09 N69-24330  
Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c 33 N74-21851  
High power metallic halide laser --- amplifying a copper chloride laser  
[NASA-CASE-NPO-14782-1] c 36 N82-28616  
Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145  
Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670  
Low phase noise oscillator using two parallel connected amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232

**AMPLIFIERS**

Stable amplifier having a stable quiescent point Patent  
[NASA-CASE-XGS-02812] c 09 N71-19466  
Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent  
[NASA-CASE-XAC-05422] c 04 N71-23185  
High-gain, broadband traveling wave maser Patent  
[NASA-CASE-NPO-10548] c 16 N71-24831  
Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234  
Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-XNP-01068] c 10 N71-28739  
RC networks and amplifiers employing the same  
[NASA-CASE-XAC-05462-2] c 10 N72-17171  
Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c 33 N74-14939  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014  
Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c 36 N76-31512  
High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191  
Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887  
Low phase noise oscillator using two parallel connected amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232  
Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

Integrated photo-responsive metal oxide semiconductor circuit

[NASA-CASE-GSC-12782-1] c 33 N88-14271

**AMPLITUDE DISTRIBUTION ANALYSIS**

System for monitoring signal amplitude ranges

[NASA-CASE-XMS-04061-1] c 09 N69-39885

Single or joint amplitude distribution analyzer Patent

[NASA-CASE-XNP-01383] c 09 N71-10659

Analog-to-digital converter

[NASA-CASE-XNP-00477] c 08 N73-28045

**AMPLITUDE MODULATION**

Signal generator

[NASA-CASE-XNP-05612] c 09 N69-21468

Demodulation system Patent

[NASA-CASE-XAC-04030] c 10 N71-19472

Amplitude modulated laser transmitter Patent

[NASA-CASE-XMS-04269] c 16 N71-22895

Vibrating element electrometer with output signal magnified over input signal by a function of the mechanical Q of the vibrating element Patent

[NASA-CASE-XAC-02807] c 09 N71-23021

Phase multiplying electronic scanning system Patent

[NASA-CASE-NPO-10302] c 10 N71-26142

Signal path series step biased multidevice high efficiency amplifier Patent

[NASA-CASE-GSC-10668-1] c 07 N71-28430

Gated compressor, distortionless signal limiter

[NASA-CASE-NPO-11820-1] c 32 N74-19788

Amplitude steered array

[NASA-CASE-GSC-11446-1] c 33 N74-20860

Stark-effect modulation of CO<sub>2</sub> laser with NH<sub>2</sub>D

[NASA-CASE-NPO-11945-1] c 36 N76-18427

Adaptive reference voltage generator for firing angle control of line-commutated inverters

[NASA-CASE-MFS-25215-1] c 33 N83-31953

**AMPLITUDES**

Noise limiter Patent

[NASA-CASE-NPO-10169] c 10 N71-24844

Acoustic rotation control

[NASA-CASE-NPO-15689-1] c 71 N84-23233

High voltage power supply

[NASA-CASE-GSC-12818-1] c 33 N85-29147

**AMPOULES**

Ampoule sealing apparatus and process --- for housing a semiconductor growth charge under vacuum

[NASA-CASE-LAR-12847-1] c 33 N83-16633

Apparatus and method for heating a material in a transparent ampoule --- crystal growth

[NASA-CASE-MFS-25436-1] c 27 N83-36220

Reusable thermal cycling clamp

[NASA-CASE-LAR-12868-1] c 37 N85-21651

**ANALGESIA**

Indomethacin-antihistamine combination for gastric ulceration control

[NASA-CASE-ARC-11118-2] c 52 N81-14613

Indomethacin-antihistamine combination for gastric ulceration control

[NASA-CASE-ARC-11118-1] c 52 N81-29764

**ANALOG CIRCUITS**

Condition and condition duration indicator Patent

[NASA-CASE-XMF-01097] c 10 N71-16058

Automatic closed circuit television arc guidance control Patent

[NASA-CASE-MFS-13046] c 07 N71-19433

Electronic divider and multiplier using photocells Patent

[NASA-CASE-XFR-05637] c 09 N71-19480

Continuous Fourier transform method and apparatus --- for the analysis of simultaneous analog signal components

[NASA-CASE-ARC-10466-1] c 60 N75-13539

Electronic analog divider

[NASA-CASE-LEW-11881-1] c 33 N77-17354

Tuned analog network

[NASA-CASE-GSC-12650-1] c 33 N84-14421

**ANALOG COMPUTERS**

Analog spatial maneuver computer

[NASA-CASE-GSC-10880-1] c 08 N72-11172

**ANALOG DATA**

Data compression processor Patent

[NASA-CASE-NPO-10068] c 08 N71-19288

Wide range data compression system Patent

[NASA-CASE-XGS-02612] c 08 N71-19435

Analog Signal to Discrete Time Interval Converter (ASDTIC)

[NASA-CASE-ERC-10048] c 09 N72-25251

Digital plus analog output encoder

[NASA-CASE-GSC-12115-1] c 62 N76-31946

Velocity measurement system

[NASA-CASE-MFS-23363-1] c 35 N78-32396

**ANALOG SIMULATION**

Apparatus for simulating optical transmission links

[NASA-CASE-GSC-11877-1] c 74 N76-18913

**ANALOG TO DIGITAL CONVERTERS**

Analog-to-digital conversion system Patent

[NASA-CASE-XAC-00404] c 08 N70-40125

Analog to digital converter Patent

[NASA-CASE-XLA-00670] c 08 N71-12501

Nonlinear analog-to-digital converter Patent

[NASA-CASE-XAC-04031] c 08 N71-18594

Drift compensation circuit for analog to digital converter Patent

[NASA-CASE-XNP-04780] c 08 N71-19687

Pneumatic oscillator Patent

[NASA-CASE-LEW-10345-1] c 10 N71-25899

Analog signal integration and reconstruction system Patent

[NASA-CASE-NPO-10344] c 10 N71-26544

Analog to digital converter tester Patent

[NASA-CASE-XLA-06713] c 14 N71-28991

Wide range analog-to-digital converter with a variable gain amplifier

[NASA-CASE-NPO-11018] c 08 N72-21200

Analog-to-digital converter

[NASA-CASE-MSC-13110-1] c 08 N72-22163

Analog-to-digital converter analyzing system

[NASA-CASE-NPO-10560] c 08 N72-22166

Digital control and information system

[NASA-CASE-NPO-11016] c 08 N72-31226

Counting digital filters

[NASA-CASE-NPO-11821-1] c 08 N73-26175

Analog-to-digital converter

[NASA-CASE-NPO-00477] c 08 N73-28045

Analog to digital converter

[NASA-CASE-NPO-13385-1] c 33 N76-18345

Analog to digital converter for two-dimensional radiant energy array computers

[NASA-CASE-GSC-11839-3] c 60 N77-32731

Electrochemical detection device --- for use in microbiology

[NASA-CASE-LAR-11922-1] c 25 N79-24073

Heads up display

[NASA-CASE-LAR-12630-1] c 06 N84-27733

Method of and apparatus for generating an interstitial point in a data stream having an even number of data points

[NASA-CASE-MFS-25319-1] c 60 N85-33701

A digitally controlled system for effecting and presenting a selected electrical resistance

[NASA-CASE-MFS-29149-1] c 33 N87-29737

Frequency domain laser velocimeter signal processor

[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

**ANALYZERS**

Fluid phase analyzer Patent

[NASA-CASE-NPO-10691] c 14 N71-26199

Automated fluid chemical analyzer Patent

[NASA-CASE-XNP-09451] c 06 N71-26754

Micrometeoroid analyzer

[NASA-CASE-ARC-10443-1] c 14 N73-20477

NDIR gas analyzer based on absorption modulation ratios for known and unknown samples

[NASA-CASE-ARC-10802-1] c 35 N75-30502

Cosmic dust analyzer

[NASA-CASE-MSC-13802-2] c 35 N76-15431

Optically selective, acoustically resonant gas detecting transducer

[NASA-CASE-ARC-10639-1] c 35 N78-13400

**ANCHORS (FASTENERS)**

Daze fasteners

[NASA-CASE-LAR-13009-2] c 37 N87-22976

**ANECHOIC CHAMBERS**

Almond test body --- for microwave anechoic chambers

[NASA-CASE-LAR-13747-1] c 32 N88-24845

**ANEMOMETERS**

Anemometer with braking mechanism Patent

[NASA-CASE-XMF-05224] c 14 N71-23726

Maxometers (peak wind speed anemometers)

[NASA-CASE-MFS-20916] c 14 N73-25460

Radionuclide counting technique for measuring wind velocity and direction

[NASA-CASE-LAR-12971-1] c 47 N84-28292

Thermal remote anemometer system

[NASA-CASE-LAR-13508-1] c 35 N88-23962

**ANGIOGRAPHY**

Contour detector and data acquisition system for the left ventricular outline

[NASA-CASE-ARC-10985-1] c 52 N79-10724

**ANGLE OF ATTACK**

Angle detector

[NASA-CASE-ARC-11036-1] c 35 N78-32395

Aerodynamic side-force alleviator means

[NASA-CASE-LAR-12326-1] c 02 N81-14968

**ANGLES (GEOMETRY)**

Internal flare angle gauge Patent

[NASA-CASE-XMF-04415] c 14 N71-24693

Method for generating ultra-precise angles Patent

[NASA-CASE-XGS-04173] c 19 N71-26674

Rotating raster generator

[NASA-CASE-FRC-10071-1] c 32 N74-20813

Angular measurement system

[NASA-CASE-MFS-25825-1] c 31 N86-29055

Universal precision sine bar attachment

[NASA-CASE-MFS-28253-1] c 37 N88-24971

**ANGULAR ACCELERATION**

Angular accelerometer Patent

[NASA-CASE-XMS-05936] c 14 N70-41682

**ANGULAR CORRELATION**

Device for determining relative angular position between a spacecraft and a radiation emitting celestial body

[NASA-CASE-GSC-11444-1] c 14 N73-28490

**ANGULAR DISTRIBUTION**

Noncontacting method for measuring angular deflection

[NASA-CASE-LAR-12178-1] c 74 N80-21138

**ANGULAR MOMENTUM**

Stretch de-spin mechanism Patent

[NASA-CASE-XGS-00619] c 30 N70-40016

Rim inertial measuring system

[NASA-CASE-LAR-12052-1] c 18 N81-29152

Fluidic momentum controller

[NASA-CASE-MSC-20906-2] c 35 N89-15379

**ANGULAR RESOLUTION**

Angular measurement system Patent

[NASA-CASE-XMF-00447] c 14 N70-33179

**ANGULAR VELOCITY**

Angular position and velocity sensing apparatus Patent

[NASA-CASE-XGS-05680] c 14 N71-17585

Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion

[NASA-CASE-NPO-14170-1] c 37 N81-15364

Interferometric angle monitor

[NASA-CASE-GSC-12614-1] c 74 N83-32577

Fluidic angular velocity sensor

[NASA-CASE-NPO-16479-1CU] c 35 N86-32695

**ANHYDRIDES**

Perfluoro alkylene dioxy-bis-(4-phthalic anhydrides and oxy-bis-(perfluoroalkyleneoxyphthalic anhydrides

[NASA-CASE-MFS-22356-1] c 23 N75-30256

Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams

[NASA-CASE-ARC-11107-1] c 25 N80-16116

Prepolymer dianhydrides

[NASA-CASE-NPO-13899-1] c 27 N80-32515

Maleimido substituted aromatic cyclotriphosphazenes

[NASA-CASE-ARC-11428-1] c 23 N86-19376

**ANILINE**

Process for preparation of dianilinosilanes Patent

[NASA-CASE-XMF-06409] c 06 N71-23230

**ANIMALS**

Automatic real-time pair-feeding system for animals

[NASA-CASE-ARC-10302-1] c 51 N74-15778

Tread drum for animals --- having an electrical shock station

[NASA-CASE-ARC-10917-1] c 51 N78-27733

**ANISOTROPIC MEDIA**

Hybrid composite laminate structures

[NASA-CASE-LEW-12118-1] c 24 N77-27188

**ANNEALING**

Recovery of radiation damaged solar cells through thermal annealing

[NASA-CASE-XGS-04047-2] c 03 N72-11062

CDS solid state phase insensitive ultrasonic transducer --- annealing cadmium sulfide crystals

[NASA-CASE-LAR-12304-1] c 35 N80-20559

**ANNULAR NOZZLES**

Rocket thrust chamber Patent

[NASA-CASE-XLE-00145] c 28 N70-36806

Annular slit colloid thruster Patent

[NASA-CASE-GSC-10709-1] c 28 N71-25213

**ANNULAR PLATES**

Annular supersonic decelerator or drogue Patent

[NASA-CASE-XLE-00222] c 02 N70-37939

Multiple plate hydrostatic viscous damper

[NASA-CASE-LEW-12445-1] c 37 N81-22360

**ANNULI**

Shaft transducer having dc output proportional to angular velocity

[NASA-CASE-NPO-15706-1] c 35 N84-28017

**ANODES**

Heat activated cell with alkali anode and alkali salt electrolyte Patent

[NASA-C

- Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117
- Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- ANODIC COATINGS**  
Temperature reducing coating for metals subject to flame exposure Patent  
[NASA-CASE-XLE-00035] c 33 N71-29151
- Anode for ion thruster  
[NASA-CASE-LEW-12048-1] c 20 N77-20162
- Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449
- ANOMALIES**  
Aircraft liftemeter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280
- ANTENNA ARRAYS**  
Antenna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase Patent  
[NASA-CASE-XLA-00414] c 07 N70-38200
- Multiple input radio receiver Patent  
[NASA-CASE-XLA-00901] c 07 N71-10775
- Horn feed having overlapping apertures Patent  
[NASA-CASE-GSC-10452] c 07 N71-12396
- Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854
- Radar antenna system for acquisition and tracking Patent  
[NASA-CASE-XMS-09610] c 07 N71-24625
- Antenna array phase quadrature tracking system Patent  
[NASA-CASE-MS-C-12205-1] c 07 N71-27056
- Antenna array at focal plane of reflector with coupling network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233
- Triaxial antenna Patent  
[NASA-CASE-XGS-02290] c 07 N71-28809
- Virtual wall slot circularly polarized planar array antenna  
[NASA-CASE-NPO-10301] c 07 N72-11148
- Stacked array of omnidirectional antennas  
[NASA-CASE-LAR-10545-1] c 09 N72-21244
- Circularly polarized antenna  
[NASA-CASE-ERC-10214] c 09 N72-31235
- Phase control circuits using frequency multiplications for phased array antennas  
[NASA-CASE-ERC-10285] c 10 N73-16206
- Plural beam antenna  
[NASA-CASE-GSC-11013-1] c 09 N73-19234
- Amplitude steered array  
[NASA-CASE-GSC-11446-1] c 33 N74-20860
- Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MS-C-12593-1] c 17 N76-21250
- Thin conformal antenna array for microwave power conversions  
[NASA-CASE-NPO-13886-1] c 32 N78-24391
- RF beam center location method and apparatus for power transmission system  
[NASA-CASE-NPO-13821-1] c 44 N78-28594
- Phased array antenna control  
[NASA-CASE-MS-C-14939-1] c 32 N79-11264
- Phase conjugation method and apparatus for an active retrodirective antenna array  
[NASA-CASE-NPO-13641-1] c 32 N79-24210
- Scannable beam forming interferometer antenna array system  
[NASA-CASE-GSC-12365-1] c 32 N80-28578
- Frequency translating phase conjugation circuit for active retrodirective antenna array --- microwave transmission  
[NASA-CASE-NPO-14536-1] c 32 N81-14185
- Coaxial phased array antenna  
[NASA-CASE-MS-C-16800-1] c 32 N81-14187
- Baseband signal combiner for large aperture antenna array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308
- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MS-C-18606-1] c 32 N82-11336
- Spiral slotted phased antenna array  
[NASA-CASE-MS-C-18532-1] c 32 N82-27558
- Method and apparatus for self-calibration and phasing of array antenna  
[NASA-CASE-NPO-15920-1] c 33 N85-21493
- Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390
- ANTENNA COMPONENTS**  
Digital servo controller --- for rotating antenna shaft  
[NASA-CASE-KSC-10769-1] c 33 N74-29556
- Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15381
- Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390
- ANTENNA COUPLERS**  
Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524
- ANTENNA DESIGN**  
Low noise single aperture multimode monopulse antenna feed system Patent  
[NASA-CASE-XNP-01735] c 07 N71-22750
- Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984
- Antenna array phase quadrature tracking system Patent  
[NASA-CASE-MS-C-12205-1] c 07 N71-27056
- Unfurlable structure including coiled strips thrust launched upon tension release Patent  
[NASA-CASE-HQN-00937] c 07 N71-28979
- Antenna design for surface wave suppression Patent  
[NASA-CASE-XLA-10772] c 07 N71-28980
- Target acquisition antenna  
[NASA-CASE-GSC-10064-1] c 10 N72-22235
- Collapsible high gain antenna  
[NASA-CASE-KSC-10392] c 07 N73-26117
- Dish antenna having switchable beamwidth --- with truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c 33 N75-19516
- Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c 32 N76-15330
- Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365
- Furlable antenna --- antenna design  
[NASA-CASE-NPO-13553-1] c 33 N76-32457
- Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539
- Multiple band circularly polarized microstrip antenna  
[NASA-CASE-MS-C-18334-1] c 32 N80-32604
- Spiral slotted phased antenna array  
[NASA-CASE-MS-C-18532-1] c 32 N82-27558
- Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390
- Switched steerable multiple beam antenna system  
[NASA-CASE-MS-C-20873-1-SB] c 32 N89-11961
- ANTENNA FEEDS**  
Multi-feed cone Cassegrain antenna Patent  
[NASA-CASE-NPO-10539] c 07 N71-11285
- Horn feed having overlapping apertures Patent  
[NASA-CASE-GSC-10452] c 07 N71-12396
- Target acquisition antenna  
[NASA-CASE-GSC-10064-1] c 10 N72-22235
- Composite antenna feed  
[NASA-CASE-GSC-11046-1] c 07 N73-28013
- Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c 32 N74-11000
- High efficiency multifrequency feed  
[NASA-CASE-GSC-11909] c 32 N74-20863
- Single frequency, two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c 32 N76-15329
- Reflex feed system for dual frequency antenna with frequency cutoff means  
[NASA-CASE-NPO-14022-1] c 32 N78-31321
- Antenna feed system for receiving circular polarization and transmitting linear polarization  
[NASA-CASE-NPO-14362-1] c 32 N80-16261
- Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278
- Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340
- Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355
- Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118
- ANTENNA RADIATION PATTERNS**  
Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462
- Dual mode horn antenna Patent  
[NASA-CASE-XNP-01057] c 07 N71-15907
- Electronic scanning of 2-channel monopulse patterns Patent  
[NASA-CASE-GSC-10299-1] c 09 N71-24804
- High impact antenna Patent  
[NASA-CASE-NPO-10231] c 07 N71-26101
- Triaxial antenna Patent  
[NASA-CASE-XGS-02290] c 07 N71-28809
- Lightning tracking system  
[NASA-CASE-KSC-10729-1] c 09 N73-32110
- Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365
- Coaxial phased array antenna  
[NASA-CASE-MS-C-16800-1] c 32 N81-14187
- Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390
- ANTENNAS**  
Self-erecting reflector Patent  
[NASA-CASE-XGS-09190] c 31 N71-16102
- High impact antenna Patent  
[NASA-CASE-NPO-10231] c 07 N71-26101
- Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191
- Conical reflector antenna  
[NASA-CASE-NPO-10303] c 07 N72-22127
- Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568
- Antenna grout replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043
- Measurement apparatus and procedure for the determination of surface emissivities  
[NASA-CASE-LAR-13455-1] c 32 N87-21206
- ANTIBIOTICS**  
Determination of antimicrobial susceptibilities on infected urines without isolation  
[NASA-CASE-GSC-12046-1] c 52 N79-14750
- ANTIREFLECTION BEARINGS**  
Hybrid lubrication system and bearing Patent  
[NASA-CASE-XNP-01641] c 15 N71-22997
- Rolling element bearings Patent  
[NASA-CASE-XLE-09527-2] c 15 N71-26189
- High speed hybrid bearing comprising a fluid bearing and a rolling bearing connected in series  
[NASA-CASE-LEW-11152-1] c 15 N73-32359
- Production of hollow components for rolling element bearings by diffusion welding  
[NASA-CASE-LEW-11026-1] c 15 N73-33383
- Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916
- Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482
- ANTIgravity**  
Anti-gravity device  
[NASA-CASE-MFS-22758-1] c 70 N75-26789
- ANTI-HISTAMINICS**  
Indomethacin-antihistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-2] c 52 N81-14613
- Indomethacin-antihistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-1] c 52 N81-29764
- ANTIREFLECTION COATINGS**  
Silicon nitride coated, plastic covered solar cell  
[NASA-CASE-LEW-11496-1] c 44 N77-14580
- Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-19597
- ANVILS**  
Apparatus for making diamonds  
[NASA-CASE-MFS-20698] c 15 N72-20446
- APERTURES**  
Focussing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618
- Threadless fastener apparatus Patent  
[NASA-CASE-XFR-05302] c 15 N71-23254
- On-film optical recording of camera lens settings  
[NASA-CASE-MS-C-12363-1] c 14 N73-26431
- Method of forming aperture plate for electron microscope  
[NASA-CASE-ARC-10448-2] c 74 N75-12732
- Method of making an apertured casting --- using duplicate mold  
[NASA-CASE-LEW-11169-1] c 37 N76-23570
- Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408
- APOLLO PROJECT**  
Space suit  
[NASA-CASE-MS-C-12609-1] c 05 N73-32012
- APOLLO SPACECRAFT**  
Energy absorbing structure Patent Application  
[NASA-CASE-MS-C-12279-1] c 15 N70-35679
- Low onset rate energy absorber  
[NASA-CASE-MS-C-12279] c 15 N72-17450
- APPLICATIONS OF MATHEMATICS**  
Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437
- APPROACH**  
Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059
- AQUATIC PLANTS**  
Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654

## AQUEOUS SOLUTIONS

- Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
[NASA-CASE-MSC-13530-2] c 23 N75-14834
- Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245
- Method for separating biological cells --- suspended in aqueous polymer systems  
[NASA-CASE-MFS-23883-1] c 51 N80-16715
- Method of cross-linking polyvinyl alcohol and other water soluble resins  
[NASA-CASE-LEW-13103-1] c 27 N80-32516
- Electrophotolysis oxidation system for measurement of organic concentration in water  
[NASA-CASE-MSC-16497-1] c 25 N82-12166
- Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441
- Coal desulfurization by aqueous chlorination  
[NASA-CASE-NPO-14902-1] c 25 N82-29371
- Hydrodesulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743

## ARC DISCHARGES

- Device for preventing high voltage arcing in electron beam welding Patent  
[NASA-CASE-XMF-08522] c 15 N71-19486
- Self-repeating plasma generator having communicating annular and linear arc discharge passages Patent  
[NASA-CASE-XLA-03103] c 25 N71-21693
- Method and apparatus for nondestructive testing --- using high frequency arc discharges  
[NASA-CASE-MFS-21233-1] c 38 N74-15395
- Sustained arc ignition system  
[NASA-CASE-LEW-12444-1] c 33 N77-28385

## ARC HEATING

- Electric-arc heater Patent  
[NASA-CASE-XLA-00330] c 33 N70-34540
- Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c 25 N70-41628
- Annular arc accelerator shock tube  
[NASA-CASE-NPO-13528-1] c 09 N77-10071

## ARC JET ENGINES

- Magneto-plasma-dynamic arc thruster  
[NASA-CASE-LEW-11180-1] c 25 N73-25760
- Arcjet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939

## ARC LAMPS

- Starting circuit for vapor lamps and the like Patent  
[NASA-CASE-XNP-01058] c 09 N71-12540
- Compact, high intensity arc lamp with internal magnetic field producing means  
[NASA-CASE-NPO-11510-1] c 33 N77-21315
- Depressurization of arc lamps  
[NASA-CASE-NPO-10790-1] c 33 N77-21316
- Arc control in compact arc lamps  
[NASA-CASE-NPO-10870-1] c 33 N77-22386
- Purging means and method for Xenon arc lamps  
[NASA-CASE-NPO-11978] c 31 N78-17238
- Multiple anode arc lamp system  
[NASA-CASE-NPO-10857-1] c 33 N80-14330
- Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843
- Arc lamp power supply using a voltage multiplier  
[NASA-CASE-LAR-13202-1] c 33 N88-23942

## ARC SPRAYING

- Arc spray fabrication of metal matrix composite monolayer  
[NASA-CASE-LEW-13828-1] c 24 N85-30027

## ARC WELDING

- Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871
- Automatic closed circuit television arc guidance control Patent  
[NASA-CASE-MFS-13046] c 07 N71-19433
- Device for preventing high voltage arcing in electron beam welding Patent  
[NASA-CASE-XMF-08522] c 15 N71-19486
- Welding skate with computerized control Patent  
[NASA-CASE-XMF-07069] c 15 N71-23815
- Grain refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c 37 N75-19683
- Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843
- Welding torch gas cup extension  
[NASA-CASE-MFS-29252-1] c 37 N88-23980
- Trailer shield assembly for a welding torch  
[NASA-CASE-MFS-29260-1] c 37 N88-24972
- ARC length control for plasma welding  
[NASA-CASE-MSC-20900-1] c 37 N88-30131

## ARCHITECTURE

- Foldable construction block  
[NASA-CASE-MSC-12233-2] c 32 N73-13921

## ARCHITECTURE (COMPUTERS)

- Massively parallel processor computer  
[NASA-CASE-GSC-12223-1] c 60 N83-25378

- Distributed multiport memory architecture  
[NASA-CASE-NPO-15342-1] c 60 N83-32342
- High dynamic global positioning system receiver  
[NASA-CASE-NPO-16171-1CU] c 04 N86-27270
- Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946
- Nanosequencer digital logic controller  
[NASA-CASE-NPO-16116-2] c 60 N88-29310

## ARGON

- Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826

## ARM (ANATOMY)

- Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c 09 N74-30597
- Orthotic arm joint --- for use in mechanical arms  
[NASA-CASE-MFS-21611-1] c 54 N75-12616
- Controller arm for a remotely related slave arm  
[NASA-CASE-ARC-11052-1] c 37 N79-28551

## ARMATURES

- Direct current motor with stationary armature and field Patent  
[NASA-CASE-XGS-05290] c 09 N71-25999
- Solenoid valve including guide for armature and valve member  
[NASA-CASE-GSC-10607-1] c 15 N72-20442
- Electric motive machine including magnetic bearing  
[NASA-CASE-XGS-07805] c 15 N72-33476
- Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834

## AROMATIC COMPOUNDS

- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c 27 N74-21156
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315
- Polymeric foams from cross-linkable poly-n-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c 27 N78-31232
- Process for preparing thermoplastic aromatic polyimides  
[NASA-CASE-LAR-11828-1] c 27 N78-32261
- Curing agent for polyepoxides and epoxy resins and composites cured therewith --- preventing carbon fiber release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260
- The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312

## ARRAYS

- Radio frequency arraying method for receivers  
[NASA-CASE-NPO-14328-1] c 32 N80-18253
- Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659
- Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763
- Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856

## ARTERIES

- Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c 52 N74-27566

## ARTIFICIAL CLOUDS

- Barium release system  
[NASA-CASE-LAR-10670-1] c 06 N73-30097

## ARTIFICIAL GRAVITY

- Rotating space station simulator Patent  
[NASA-CASE-XLA-03127] c 11 N71-10776
- Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c 31 N71-21881
- Space vehicle with artificial gravity and earth-like environment  
[NASA-CASE-LEW-11101-1] c 31 N73-32750

## ARTIFICIAL SATELLITES

- Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621
- Gravity gradient attitude control system Patent  
[NASA-CASE-GSC-10555-1] c 21 N71-27324

## ASBESTOS

- Reconstituted asbestos matrix --- for use in fuel or electrolysis cells  
[NASA-CASE-MSC-12568-1] c 24 N76-14204

## ASHES

- Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1-CU] c 31 N88-24814

## ASPECT RATIO

- Variable sweep wing aircraft Patent  
[NASA-CASE-XLA-00221] c 02 N70-33266
- Variable-span aircraft Patent  
[NASA-CASE-XLA-00166] c 02 N70-34178
- Variable sweep aircraft wing Patent  
[NASA-CASE-XLA-00350] c 02 N70-38011

## ASPHALT

- Thermoplastic rubber comprising ethylene-vinyl acetate copolymer, asphalt and fluxing oil  
[NASA-CASE-NPO-08835-1] c 27 N78-33228

## ASSAYING

- Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569

## ASSEMBLIES

- Multiple Belleville spring assembly Patent  
[NASA-CASE-XNP-00840] c 15 N70-38225
- Bearing seat usable in a gas turbine engine  
[NASA-CASE-LEW-12477-1] c 37 N77-32501
- Foldable beam  
[NASA-CASE-LAR-12077-1] c 31 N81-25259
- Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497
- Self-locking mechanical center joint  
[NASA-CASE-LAR-12864-1] c 37 N85-30336
- X-ray determination of parts alignment  
[NASA-CASE-MSC-20418-1] c 74 N86-20126
- Emitted vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670
- Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983

## ASSEMBLING

- Magnetic attachment mechanism  
[NASA-CASE-MSC-21095-1] c 37 N89-12866

## ASSEMBLY

- Alignment and assembly tool for very large diameter cylinders  
[NASA-CASE-MFS-28001-2] c 37 N88-14360

## ASSOCIATIVE PROCESSING (COMPUTERS)

- Hybrid analog-digital associative neural network  
[NASA-CASE-NPO-17058-1-CU] c 62 N87-25803

## ASTRONAUT LOCOMOTION

- Rotating space station simulator Patent  
[NASA-CASE-XLA-03127] c 11 N71-10776
- Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194
- Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195
- Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161
- Foreshortened convolute section for a pressurized suit Patent  
[NASA-CASE-XMS-09637-1] c 05 N71-24730
- Locomotion and restraint aid Patent  
[NASA-CASE-ARC-10153] c 05 N71-28619
- Walking boot assembly  
[NASA-CASE-ARC-11101-1] c 54 N78-17675
- Spacesuit mobility knee joints  
[NASA-CASE-ARC-11058-2] c 54 N79-24651

## ASTRONAUT MANEUVERING EQUIPMENT

- Hand-held self-maneuvering unit Patent  
[NASA-CASE-XMS-05304] c 05 N71-12336
- Space environmental work simulator Patent  
[NASA-CASE-XMF-07488] c 11 N71-18773
- Personal propulsion unit Patent  
[NASA-CASE-MFS-20130] c 28 N71-27585

## ASTRONAUT PERFORMANCE

- Locomotion and restraint aid Patent  
[NASA-CASE-ARC-10153] c 05 N71-28619
- Spacesuit mobility joints  
[NASA-CASE-ARC-11058-1] c 54 N78-31735

## ASTRONAUT TRAINING

- Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746
- Mechanical simulator of low gravity conditions Patent  
[NASA-CASE-MFS-10555] c 11 N71-19494
- Subgravity simulator Patent  
[NASA-CASE-XMS-04798] c 11 N71-21474

## ASTRONAUTS

- Emergency lunar communications system  
[NASA-CASE-MFS-21042] c 07 N72-25171
- Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c 37 N74-18127
- Bi-stem gripping apparatus  
[NASA-CASE-MFS-28185-1] c 37 N88-23979

## ASTRONAVIGATION

- Guidance and maneuver analyzer Patent  
[NASA-CASE-XNP-09572] c 14 N71-15621

## ASTRONOMICAL PHOTOGRAPHY

- Apparatus for photographing meteors  
[NASA-CASE-LAR-10226-1] c 14 N73-19419

## ASYMMETRY

- Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361

## ATMOSPHERIC COMPOSITION

- Atmospheric sampling devices  
[NASA-CASE-NPO-11373] c 13 N72-25323
- Apparatus for sampling particulates in gases  
[NASA-CASE-HQN-10037-1] c 14 N73-27376

- Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c 35 N74-11284
- Chelate-modified polymers for atmospheric gas chromatography  
[NASA-CASE-ARC-11154-1] c 25 N80-23383
- Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217
- ATMOSPHERIC DENSITY**  
System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443
- ATMOSPHERIC ENTRY**  
Flight craft Patent  
[NASA-CASE-XAC-02058] c 02 N71-16087
- Means for measuring the electron density gradients of the plasma sheath formed around a space vehicle Patent  
[NASA-CASE-XLA-06232] c 25 N71-20563
- Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015
- ATMOSPHERIC ENTRY SIMULATION**  
Plasma accelerator Patent  
[NASA-CASE-XLA-00675] c 25 N70-33267
- Flow field simulation Patent  
[NASA-CASE-LAR-11138] c 12 N71-20436
- ATMOSPHERIC MOISTURE**  
Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681
- ATMOSPHERIC PHYSICS**  
Rocket borne instrument to measure electric fields inside electrified clouds  
[NASA-CASE-KSC-10730-1] c 14 N73-32318
- ATMOSPHERIC PRESSURE**  
Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229
- Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639
- ATMOSPHERIC RADIATION**  
Method and apparatus for measuring solar activity and atmospheric radiation effects  
[NASA-CASE-ERC-10276] c 14 N73-26432
- ATMOSPHERIC REFRACTION**  
Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-1] c 36 N81-22344
- ATMOSPHERIC SCATTERING**  
Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c 36 N75-15028
- ATMOSPHERIC SOUNDING**  
Microwave limb sounder --- measuring trace gases in the upper atmosphere  
[NASA-CASE-NPO-14544-1] c 46 N82-12685
- ATMOSPHERIC TEMPERATURE**  
System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443
- Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639
- ATMOSPHERIC TURBULENCE**  
Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMF-14032] c 20 N71-16340
- Focused laser Doppler velocimeter  
[NASA-CASE-MFS-23178-1] c 35 N77-10493
- ATOMIC BEAMS**  
Variable energy, high flux, ground-state atomic oxygen source  
[NASA-CASE-NPO-16640-1-CU] c 72 N87-21661
- ATOMIC EXCITATIONS**  
Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127
- ATOMIZERS**  
Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654
- Constant-output atomizer --- Inhalation therapy and aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406
- Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255
- ATS**  
Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978
- ATTACHMENT**  
Wide temperature range electronic device with lead attachment  
[NASA-CASE-ERC-10224-2] c 09 N73-27150
- ATTENUATORS**  
Rotary vane attenuator wherein rotor has orthogonally disposed resistive and dielectric cards  
[NASA-CASE-NPO-11418-1] c 14 N73-13420
- Pulse transducer with artifact signal attenuator --- heart rate sensors  
[NASA-CASE-FRC-11012-1] c 52 N80-23969
- ATTITUDE (INCLINATION)**  
Analog spatial maneuver computer  
[NASA-CASE-GSC-10880-1] c 08 N72-11172
- Spacecraft attitude sensor  
[NASA-CASE-GSC-10890-1] c 21 N73-30640
- Interferometer mirror tilt correcting system  
[NASA-CASE-NPO-13687-1] c 35 N78-18391
- ATTITUDE CONTROL**  
Visual target for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c 31 N69-27499
- Three axis controller Patent  
[NASA-CASE-XFR-00181] c 21 N70-33279
- Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent  
[NASA-CASE-XGS-00466] c 21 N70-34297
- Attitude and propellant flow control system and method Patent  
[NASA-CASE-XMF-00185] c 21 N70-34539
- Space vehicle attitude control Patent  
[NASA-CASE-XNP-00465] c 21 N70-35395
- Attitude control for spacecraft Patent  
[NASA-CASE-XNP-00294] c 21 N70-36938
- Attitude orientation of spin-stabilized space vehicles Patent  
[NASA-CASE-XLA-00281] c 21 N70-36943
- Ejection unit Patent  
[NASA-CASE-XNP-00676] c 15 N70-38996
- Three-axis controller Patent  
[NASA-CASE-XAC-01404] c 05 N70-41581
- Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746
- Canopus detector including automotive gain control of photomultiplier tube Patent  
[NASA-CASE-XNP-03914] c 21 N71-10771
- Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545
- Spacecraft experiment pointing and attitude control system Patent  
[NASA-CASE-XLA-05464] c 21 N71-14132
- Attitude control system Patent  
[NASA-CASE-XGS-04393] c 21 N71-14159
- Control system for rocket vehicles Patent  
[NASA-CASE-XLA-01163] c 21 N71-15582
- Reactance control system Patent  
[NASA-CASE-XMF-01598] c 21 N71-15583
- Spacecraft attitude detection system by stellar reference Patent  
[NASA-CASE-XGS-03431] c 21 N71-15642
- Three-axis finger tip controller for switches Patent  
[NASA-CASE-XAC-02405] c 09 N71-16089
- Thrust and direction control apparatus Patent  
[NASA-CASE-XLE-03583] c 31 N71-17629
- Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880
- Attitude control system for sounding rockets Patent  
[NASA-CASE-XGS-01654] c 31 N71-24750
- Voice operated controller Patent  
[NASA-CASE-XLA-04063] c 31 N71-33160
- Attitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089
- Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c 35 N74-15094
- Sun direction detection system  
[NASA-CASE-NPO-13722-1] c 74 N77-22951
- Thrust augmented spin recovery device  
[NASA-CASE-LAR-11970-2] c 08 N81-19130
- Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247
- Propulsion apparatus and method using boil-off gas from a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368
- Emitted vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670
- Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678
- Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808
- ATTITUDE GYROS**  
Space vehicle attitude control Patent  
[NASA-CASE-XNP-00465] c 21 N70-35395
- Attitude control system  
[NASA-CASE-MFS-22787-1] c 15 N77-10113
- ATTITUDE INDICATORS**  
Photosensitive device to detect bearing deviation Patent  
[NASA-CASE-XNP-00438] c 21 N70-35089
- Controllers Patent  
[NASA-CASE-MOS-07487] c 15 N71-23255
- Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268
- Head-up attitude display  
[NASA-CASE-ERC-10392] c 21 N73-14692
- Attitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089
- Translatory shock absorber for attitude sensors  
[NASA-CASE-MFS-22905-1] c 19 N76-22284
- Air speed and attitude probe  
[NASA-CASE-FRC-11009-1] c 06 N80-18036
- Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882
- ATTITUDE STABILITY**  
Dynamic precession damper for spin stabilized vehicles Patent  
[NASA-CASE-XLA-01989] c 21 N70-34295
- Apparatus for automatically stabilizing the attitude of a nonguided vehicle  
[NASA-CASE-ARC-10134] c 30 N72-17873
- Method of damping nutation motion with minimum spin axis attitude disturbance  
[NASA-CASE-GSC-12551-1] c 18 N83-28064
- AUDIO EQUIPMENT**  
Audio system with means for reducing noise effects  
[NASA-CASE-NPO-11631] c 10 N73-12244
- AUDIO FREQUENCIES**  
Signal path series step biased multidevice high efficiency amplifier Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430
- Audio frequency marker system  
[NASA-CASE-NPO-11147] c 14 N72-27408
- AUDIO SIGNALS**  
Method and apparatus for operating on companded PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513
- AUDITORY DEFECTS**  
Hearing aid malfunction detection system  
[NASA-CASE-MSC-14916-1] c 33 N78-10375
- AUDITORY PERCEPTION**  
Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014
- AUDITORY SIGNALS**  
Audio signal processor Patent  
[NASA-CASE-MSC-12223-1] c 07 N71-26181
- Audio system with means for reducing noise effects  
[NASA-CASE-NPO-11631] c 10 N73-12244
- AUDITORY STIMULI**  
Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014
- AUGER EFFECT**  
Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482
- AUSTENITIC STAINLESS STEELS**  
Nickel aluminide coated low alloy stainless steel  
[NASA-CASE-LEW-11267-1] c 17 N73-32414
- Device for measuring the ferrite content in an austenitic stainless-steel weld  
[NASA-CASE-MFS-22907-1] c 26 N76-18257
- AUTOCLAVES**  
System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724
- AUTOCORRELATION**  
Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503
- Correlation function apparatus Patent  
[NASA-CASE-XNP-00746] c 07 N71-21476
- AUTOMATIC CONTROL**  
Bus voltage compensation circuit for controlling direct current motor  
[NASA-CASE-XMS-04215-1] c 09 N69-39987
- Optical alignment system Patent  
[NASA-CASE-XNP-02029] c 14 N70-41955
- Pulsed energy power system Patent  
[NASA-CASE-MSC-13112] c 03 N71-11057
- Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545
- Apparatus for welding torch angle and seam tracking control Patent  
[NASA-CASE-XMF-03287] c 15 N71-15607
- Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573
- Solar optical telescope dome control system Patent  
[NASA-CASE-MSC-10966] c 14 N71-19568
- Automatic welding speed controller Patent  
[NASA-CASE-XMF-01730] c 15 N71-23050
- Indexing microwave switch Patent  
[NASA-CASE-XNP-06507] c 09 N71-23548
- Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042
- Automatic fatigue test temperature programmer Patent  
[NASA-CASE-XLA-02059] c 33 N71-24276
- Automatic battery charger Patent  
[NASA-CASE-XNP-04758] c 03 N71-24605



Transistor servo system including a unique differential amplifier circuit Patent  
[NASA-CASE-XMF-05195] c 10 N71-24861

Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent  
[NASA-CASE-NPO-10625] c 09 N71-26182

Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244

Automated fluid chemical analyzer Patent  
[NASA-CASE-XNP-09451] c 06 N71-26754

Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
[NASA-CASE-MSC-13917-1] c 05 N72-15098

Optimal control system for an electric motor driven vehicle  
[NASA-CASE-NPO-11210] c 11 N72-20244

Automated equipotential plotter  
[NASA-CASE-NPO-11134] c 09 N72-21246

Ion thruster magnetic field control  
[NASA-CASE-LEW-10835-1] c 28 N72-22771

Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c 05 N73-26071

Redundant speed control for brushless Hall effect motor  
[NASA-CASE-MFS-20207-1] c 09 N73-32107

Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c 52 N74-22771

Automatically operable self-leveling load table  
[NASA-CASE-MFS-22039-1] c 09 N75-12968

Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014

Traffic survey system --- using optical scanners  
[NASA-CASE-MFS-22631-1] c 66 N76-19888

Automatic visual inspection system for microelectronics  
[NASA-CASE-NPO-13282] c 38 N78-17396

Automatic fluid dispenser  
[NASA-CASE-ARC-10820-1] c 35 N78-19466

Method for producing solar energy panels by automation  
[NASA-CASE-LEW-12541-1] c 44 N78-25529

Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257

Method for forming a solar array strip  
[NASA-CASE-NPO-13652-3] c 44 N80-14474

Method of growing a ribbon crystal particularly suited for facilitating automated control of ribbon width  
[NASA-CASE-NPO-14295-1] c 76 N80-32245

Integrated control system for a gas turbine engine  
[NASA-CASE-LEW-12594-2] c 07 N81-19116

Solar energy control system --- temperature measurement  
[NASA-CASE-MFS-25287-1] c 44 N82-18686

Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205

Automatic weld torch guidance control system  
[NASA-CASE-MFS-25807] c 37 N83-20154

Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356

Linear magnetic bearings  
[NASA-CASE-GSC-12582-2] c 37 N85-20337

Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182

Automatic oscillator frequency control system  
[NASA-CASE-GSC-12804-1] c 33 N86-20668

Automated weld torch guidance control system  
[NASA-CASE-MFS-25807-2] c 37 N86-21850

Airplane automatic control force trimming device for asymmetric engine failures  
[NASA-CASE-LAR-13280-1] c 08 N87-20999

Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333

**AUTOMATIC CONTROL VALVES**  
Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c 15 N70-37925

Metal valve pintle with encapsulated elastomeric body Patent  
[NASA-CASE-MSC-12116-1] c 15 N71-17648

Semitoroidal diaphragm cavitating valve Patent  
[NASA-CASE-XNP-09704] c 12 N71-18615

Valving device for automatic refilling in cryogenic liquid systems  
[NASA-CASE-NPO-11177] c 15 N72-17453

Combined pressure regulator and shutoff valve  
[NASA-CASE-NPO-13201-1] c 37 N75-15050

Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c 54 N78-14784

Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483

**AUTOMATIC FREQUENCY CONTROL**

Automatic acquisition system for phase-lock loop  
[NASA-CASE-XGS-04994] c 09 N69-21543

Audio signal processor Patent  
[NASA-CASE-MSC-12223-1] c 07 N71-26181

Automatic frequency control loop including synchronous switching circuits  
[NASA-CASE-KSC-10393] c 09 N72-21247

Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c 09 N73-20231

Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

**AUTOMATIC GAIN CONTROL**

Automatic gain control system  
[NASA-CASE-XMS-05307] c 09 N69-24330

Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986

Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c 09 N73-20231

Digital automatic gain amplifier  
[NASA-CASE-KSC-11008-1] c 33 N79-22373

Automatic level control circuit  
[NASA-CASE-KSC-11170-1] c 33 N83-36356

Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

**AUTOMATIC TEST EQUIPMENT**

Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c 05 N73-26072

Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c 35 N75-27330

Visual examination apparatus  
[US-PATENT-RE-28,921] c 52 N76-30793

Automated clinical system for chromosome analysis  
[NASA-CASE-NPO-13913-1] c 52 N79-12694

Automatic flowmeter calibration system  
[NASA-CASE-KSC-11076-1] c 34 N81-26402

Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987

**AUTOMATION**

Automated multi-level vehicle parking system  
[NASA-CASE-NPO-13058-1] c 37 N77-22480

**AUTOMOBILE ENGINES**

Automotive gas turbine fuel control  
[NASA-CASE-LEW-12785-1] c 37 N78-24545

Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352

**AUTOMOBILE FUELS**

Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700

**AUTOMOBILES**

Navigation system for land vehicles  
[NASA-CASE-LAR-13322-1] c 04 N88-24620

**AUTONOMOUS NAVIGATION**

Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047

**AUXILIARY POWER SOURCES**

Independent power generator  
[NASA-CASE-LAR-11208-1] c 44 N78-32539

Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319

**AVERAGE**

Method of and apparatus for generating an interstitial point in a data stream having an even number of data points  
[NASA-CASE-MFS-25319-1] c 60 N85-33701

Threaded average temperature thermocouple  
[NASA-CASE-LAR-13475-1] c 35 N89-13763

**AVIONICS**

Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678

**AXES (REFERENCE LINES)**

Moment of inertia test fixture Patent  
[NASA-CASE-XGS-01023] c 14 N71-22992

Universal restrainer and joint Patent  
[NASA-CASE-XNP-02278] c 15 N71-28951

Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355

**AXES OF ROTATION**

Three axis controller Patent  
[NASA-CASE-XFR-00181] c 21 N70-33279

Proportional controller Patent  
[NASA-CASE-XAC-03392] c 03 N70-41954

Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent  
[NASA-CASE-XMF-00684] c 21 N71-21688

Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255

Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

Centrifugal-reciprocating compressor  
[NASA-CASE-NPO-14597-2] c 37 N84-28081

Shoulder and hip joint for hard space suits  
[NASA-CASE-ARC-11543-1] c 54 N86-28620

**AXIAL COMPRESSION LOADS**

Impact monitoring apparatus  
[NASA-CASE-MSC-15626-1] c 14 N72-25411

Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312

**AXIAL FLOW**

Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180

Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194

**AXIAL FLOW PUMPS**

Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332

Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974

**AXIAL FLOW TURBINES**

Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00170] c 15 N70-36412

Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00085] c 28 N70-39895

Method and turbine for extracting kinetic energy from a stream of two-phase fluid  
[NASA-CASE-NPO-14130-1] c 34 N79-20335

**AXIAL LOADS**

Locking device with rolling detents Patent  
[NASA-CASE-XMF-01371] c 15 N70-41829

Method for measuring biaxial stress in a body subjected to stress inducing loads  
[NASA-CASE-MFS-23299-1] c 39 N77-28511

**AXIAL STRESS**

Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c 37 N76-18459

Method for measuring biaxial stress in a body subjected to stress inducing loads  
[NASA-CASE-MFS-23299-1] c 39 N77-28511

**AZIMUTH**

Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627

Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c 36 N74-21091

Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056

Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

**AZINES**

Azine polymers and process for preparing the same Patent  
[NASA-CASE-XMF-08656] c 06 N71-11242

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c 27 N74-21156

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315

Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307

Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016

Process for the preparation of fluorine containing crosslinked elastomeric polytriazine and product so produced  
[NASA-CASE-ARC-11248-1] c 27 N81-17259

**AZO COMPOUNDS**

Molding process for imidazopyrrolone polymers  
[NASA-CASE-LAR-10547-1] c 31 N74-13177

**AZOLES**

Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908

**B****BACK INJURIES**

Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662

**BACKGROUND NOISE**

Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980

**BACKGROUND RADIATION**

Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c 35 N77-14411

**BACKSCATTERING**

Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors Patent  
[NASA-CASE-XGS-02608] c 07 N70-41678

Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c 35 N74-15091

- BACKUPS**  
Flexible back-up bar Patent  
[NASA-CASE-XMF-00722] c 15 N70-40204  
Inherent redundancy electric heater  
[NASA-CASE-MFS-21462-1] c 33 N74-14935
- BACKWARD WAVES**  
Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452  
Dielectric based submillimeter backward wave oscillator circuit  
[NASA-CASE-LEW-13736-1] c 33 N84-27974
- BACTERIA**  
Decontamination of petroleum products Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499  
Bacterial contamination monitor  
[NASA-CASE-GSC-10879-1] c 14 N72-25413  
Method of detecting and counting bacteria in body fluids  
[NASA-CASE-GSC-11092-2] c 04 N73-27052  
Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c 37 N74-13178  
Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c 51 N76-29891  
Determination of antimicrobial susceptibilities on infected urines without isolation  
[NASA-CASE-GSC-12046-1] c 52 N79-14750  
Method and apparatus for eliminating luminol interference material  
[NASA-CASE-MSC-16260-1] c 51 N80-16714  
Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569
- BACTERIOLOGY**  
Bacteria detection instrument and method  
[NASA-CASE-GSC-11533-1] c 14 N73-13435  
Application of luciferase assay for ATP to antimicrobial drug susceptibility  
[NASA-CASE-GSC-12039-1] c 51 N77-22794  
Automated single-slide staining device  
[NASA-CASE-LAR-11649-1] c 51 N77-27677
- BAFFLES**  
Light radiation direction indicator with a baffle of two parallel grids  
[NASA-CASE-XNP-03930] c 14 N69-24331  
Anti-glare improvement for optical imaging systems Patent  
[NASA-CASE-NPO-10337] c 14 N71-15604  
Flexible ring slosh damping baffle Patent  
[NASA-CASE-LAR-10317-1] c 32 N71-16103  
Buoyant anti-slosh system Patent  
[NASA-CASE-XLA-04605] c 32 N71-16106  
Floating baffle to improve efficiency of liquid transfer from tanks  
[NASA-CASE-KSC-10639] c 15 N73-26472  
System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865  
Pressure letdown method and device for coal conversion systems  
[NASA-CASE-NPO-15100-1] c 44 N84-14583  
Optical system with reflective baffles  
[NASA-CASE-ARC-11502-1] c 74 N86-20125
- BAGS**  
Relief container  
[NASA-CASE-XMS-06761] c 05 N69-23192  
Gas diffusion liquid storage bag and method of use for storing blood  
[NASA-CASE-NPO-13930-1] c 52 N79-14749
- BAKING**  
Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450  
A method and technique for installing light-weight fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-18934-3] c 24 N82-26387
- BALANCE**  
Thermo-protective device for balances Patent  
[NASA-CASE-XAC-00648] c 14 N70-40400  
Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945
- BALANCING**  
Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545  
Force-balanced, throttle valve Patent  
[NASA-CASE-NPO-10808] c 15 N71-27432  
Lift balancing device  
[NASA-CASE-LAR-10348-1] c 11 N73-12264  
Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- BALL BEARINGS**  
Two component bearing Patent  
[NASA-CASE-XLA-00013] c 15 N71-29136  
High speed rolling element bearing  
[NASA-CASE-LEW-10856-1] c 15 N72-22490  
Low mass rolling element for bearings  
[NASA-CASE-LEW-11087-1] c 15 N73-30458  
Hollow rolling element bearings  
[NASA-CASE-LEW-11087-3] c 37 N74-21064  
Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c 37 N75-31446  
Spherical bearing --- to reduce vibration effects  
[NASA-CASE-MFS-23447-1] c 37 N79-11404  
Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698
- BALLAST (MASS)**  
Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c 02 N73-26006
- BALLASTS (IMPEDANCES)**  
Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c 09 N69-24318  
Direct current ballast circuit for metal halide lamp  
[NASA-CASE-MSC-18407-1] c 33 N82-24427
- BALLISTICS**  
Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c 27 N76-15310
- BALLOON SOUNDING**  
Apparatus for controlling the temperature of balloon-borne equipment  
[NASA-CASE-GSC-11620-1] c 34 N74-23039
- BALLOONS**  
Hot air balloon deceleration and recovery system Patent  
[NASA-CASE-XLA-06824-2] c 02 N71-11037  
Inflation system for balloon type satellites Patent  
[NASA-CASE-XGS-03351] c 31 N71-16081  
System for stabilizing torque between a balloon and gondola  
[NASA-CASE-GSC-11077-1] c 02 N73-13008
- BALLS**  
Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073  
Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654
- BANDPASS FILTERS**  
Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c 07 N69-24323  
Compensating bandwidth switching transients in an amplifier circuit Patent  
[NASA-CASE-XNP-01107] c 10 N71-28859  
Signal-to-noise ratio determination circuit  
[NASA-CASE-GSC-11239-1] c 10 N73-25241  
High-Q bandpass resonators utilizing bandstop resonator pairs  
[NASA-CASE-GSC-10990-1] c 09 N73-26195  
Dichroic plate --- as bandpass filters  
[NASA-CASE-NPO-13506-1] c 35 N76-15435  
Notch filter  
[NASA-CASE-MFS-23303-1] c 32 N77-18307  
Adaptive polarization separation  
[NASA-CASE-LAR-12196-1] c 33 N81-26358  
Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417  
Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421  
Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887  
Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145  
Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650
- BANDWIDTH**  
Narrow bandwidth video Patent  
[NASA-CASE-XMS-06740-1] c 07 N71-26579  
Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c 09 N73-20231  
Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c 33 N76-14372  
Independent gain and bandwidth control of a traveling wave maser  
[NASA-CASE-NPO-13801-1] c 36 N78-18410  
Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524  
Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348
- BARIIUM**  
Barium release system  
[NASA-CASE-LAR-10670-1] c 06 N73-30097
- BARIIUM COMPOUNDS**  
Ion thruster cathode  
[NASA-CASE-XLE-07087] c 06 N69-39889
- BARIIUM FLUORIDES**  
Method of making self lubricating fluoride-metal composite materials Patent  
[NASA-CASE-XLE-08511-2] c 18 N71-16105
- BARIIUM ION CLOUDS**  
Rocket having barium release system to create ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c 15 N74-27360
- BARIIUM TITANATES**  
Semiconductor-ferroelectric memory device  
[NASA-CASE-ERC-10307] c 08 N72-21198
- BARRIER LAYERS**  
Schottky barrier solar cell  
[NASA-CASE-NPO-13689-2] c 44 N81-29525  
Method of measuring field funneling and range straggling in semiconductor charge-collecting junctions  
[NASA-CASE-NPO-16584-1-CU] c 76 N86-25269
- BARRIERS**  
Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c 36 N74-15145
- BARS**  
Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303
- BASES (CHEMICAL)**  
Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047
- BATTERY CHARGERS**  
Method and apparatus for battery charge control Patent  
[NASA-CASE-XGS-05432] c 03 N71-19438  
Electrochemical coulometer and method of forming same Patent  
[NASA-CASE-XGS-05434] c 03 N71-20491  
Coulometer and third electrode battery charging circuit Patent  
[NASA-CASE-GSC-10487-1] c 03 N71-24719  
Method and apparatus for conditioning of nickel-cadmium batteries  
[NASA-CASE-MFS-23270-1] c 44 N78-25531
- BAYARD-ALPERT IONIZATION GAGES**  
Ionization vacuum gauge with all but the end of the ion collector shielded Patent  
[NASA-CASE-XLA-07424] c 14 N71-18482
- BAYS (STRUCTURAL UNITS)**  
Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492
- BEADS**  
Rotary bead dropper and selector for testing micrometeorite detectors Patent  
[NASA-CASE-XGS-03304] c 09 N71-22988  
Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618
- BEAM LEADS**  
Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-MFS-21374-1] c 33 N74-12951
- BEAM SPLITTERS**  
Optical range finder having nonoverlapping complete images  
[NASA-CASE-MSC-12105-1] c 14 N72-21409  
Laser extensometer  
[NASA-CASE-MFS-19259-1] c 36 N78-14380  
Over-under double-pass interferometer  
[NASA-CASE-NPO-13999-1] c 35 N78-18395  
Method and apparatus for splitting a beam of energy --- optical communication  
[NASA-CASE-GSC-12083-1] c 73 N78-32848  
Interferometer  
[NASA-CASE-NPO-14502-1] c 74 N81-17888  
Collimated beam manifold with the number of output beams variable at a given output angle  
[NASA-CASE-MFS-25312-1] c 74 N83-17305  
Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949  
High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898  
Projection lens scanning laser velocimeter system  
[NASA-CASE-ARC-11547-1] c 36 N87-17026
- BEAM SWITCHING**  
Electronic beam switching commutator Patent  
[NASA-CASE-XGS-01451] c 09 N71-10677  
Antenna array at focal plane of reflector with coupling network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233  
Dish antenna having switchable beamwidth --- with truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c 33 N75-19516  
Single frequency, two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c 32 N76-15329  
Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472
- BEAM WAVEGUIDES**  
Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135  
Optical frequency waveguide and transmission system Patent  
[NASA-CASE-HQN-10541-4] c 16 N71-27183



## BEAMS (RADIATION)

- Method and apparatus for aligning a laser beam projector  
Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125  
Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287  
Multiprism collimator  
[NASA-CASE-GSC-12608-1] c 74 N83-10900

## BEAMS (RADIATION)

- Method and means for recording and reconstructing holograms without use of a reference beam Patent  
[NASA-CASE-ERC-10020] c 16 N71-26154  
Optical frequency waveguide and transmission system  
[NASA-CASE-HQN-10541-3] c 23 N72-23695  
Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510  
Scannable beam forming interferometer antenna array system  
[NASA-CASE-GSC-12365-1] c 32 N80-28578  
Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443  
Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072  
Sidelooking laser altimeter for a flight simulator  
[NASA-CASE-ARC-11312-1] c 36 N83-34304  
Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065  
Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118  
Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960

## BEAMS (SUPPORTS)

- Foldable beam  
[NASA-CASE-LAR-12077-1] c 31 N81-25259  
Beam connector apparatus and assembly  
[NASA-CASE-MFS-25134-1] c 31 N83-31895  
Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479  
Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605  
Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413  
Bi-stem gripping apparatus  
[NASA-CASE-MFS-28185-1] c 37 N88-23979  
Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MSC-20985-1] c 18 N88-26398

## BEARING

- Emitted vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670

## BEARING (DIRECTION)

- Light radiation direction indicator with a baffle of two parallel grids  
[NASA-CASE-XNP-03930] c 14 N69-24331  
Radiation direction detector including means for compensating for photocell aging Patent  
[NASA-CASE-XLA-00183] c 14 N70-40239  
Interferometer direction sensor Patent  
[NASA-CASE-NPO-10320] c 14 N71-17655  
Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c 14 N71-30265  
Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056  
Direction sensitive laser velocimeter --- determining the direction of particles using a helium-neon laser  
[NASA-CASE-LAR-12177-1] c 36 N81-24422  
System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075

## BEARINGS

- Alloys for bearings Patent  
[NASA-CASE-XLE-05033] c 15 N71-23810  
Bearing and gimbal lock mechanism and spiral flex lead module Patent  
[NASA-CASE-GSC-10556-1] c 31 N71-26537  
Device for measuring bearing preload  
[NASA-CASE-MFS-20434] c 11 N72-25288  
Magnetic bearing --- for supplying magnetic fluxes  
[NASA-CASE-GSC-11079-1] c 37 N75-18574  
Magnetic bearing system  
[NASA-CASE-GSC-11978-1] c 37 N77-17464  
Hydrostatic bearing support  
[NASA-CASE-LEW-11158-1] c 37 N77-28486  
Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500  
Bearing seat usable in a gas turbine engine  
[NASA-CASE-LEW-12477-1] c 37 N77-32501  
Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482

- Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587  
Antenna grout replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043  
Magnetic bearing and motor  
[NASA-CASE-GSC-12726-1] c 37 N83-34323  
Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492  
Portable 90 degree proof loading device  
[NASA-CASE-MSC-20250-1] c 35 N86-19581

## BEDS (PROCESS ENGINEERING)

- Catalyst bed removing tool Patent  
[NASA-CASE-XFR-00811] c 15 N70-36901  
Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428

## BEER LAW

- A multichannel photoionization chamber for absorption analysis Patent  
[NASA-CASE-ERC-10044-1] c 14 N71-27090

## BEES

- Decontamination of petroleum products Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499

## BELLOWES

- Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c 05 N69-21473  
Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960  
Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937  
Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-19686  
Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706

## BELTS

- Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c 31 N74-32917

## BENDING

- Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436  
Means for suppressing or attenuating bending motion of elastic bodies Patent  
[NASA-CASE-XAC-05632] c 32 N71-23971  
Technique of elbow bending small jacketed transfer lines Patent  
[NASA-CASE-XNP-10475] c 15 N71-24679  
Forming tool for ribbon or wire  
[NASA-CASE-XLA-05966] c 15 N72-12408

## BENDING DIAGRAMS

- Electrostatic charged particle analyzer having deflection members shaped according to the periodic voltage applied thereto Patent  
[NASA-CASE-XAC-05506-1] c 24 N71-16095

## BENDING FATIGUE

- Apparatus for positioning and loading a test specimen Patent  
[NASA-CASE-XLE-01300] c 15 N70-41993  
Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-XMF-02964] c 14 N71-17659

## BENDING MOMENTS

- Missile launch release system Patent  
[NASA-CASE-XMF-03198] c 30 N70-40353  
Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606

## BENDING VIBRATION

- Viscous pendulum damper Patent  
[NASA-CASE-LAR-10274-1] c 14 N71-17626

## BENZENE

- Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572  
Polymer of phosphonomethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525  
Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564

## BERYLLIUM ALLOYS

- Corrosion resistant beryllium Patent  
[NASA-CASE-LEW-10327] c 17 N71-33408  
Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015

## BERYLLIUM HYDRIDES

- Inhibited solid propellant composition containing beryllium hydride  
[NASA-CASE-NPO-10866-1] c 28 N79-14228

## BERYLLIUM OXIDES

- High temperature beryllium oxide capacitor  
[NASA-CASE-LEW-11938-1] c 33 N76-15373  
High modulus invert analog glass compositions containing beryllia  
[NASA-CASE-HQN-10931-2] c 27 N82-29452

- High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455

## BIDIRECTIONAL REFLECTANCE

- A reference standard for bidirectional reflection distribution function and bidirectional transmission distribution function measurement  
[NASA-CASE-MFS-28183-1] c 74 N89-13253

## BIMETALS

- Nonmagnetic thermal motor for a magnetometer  
[NASA-CASE-XAR-03786] c 09 N69-21313  
Thermostatic actuator  
[NASA-CASE-NPO-10637] c 15 N72-12409  
Thermal motor  
[NASA-CASE-NPO-11283] c 09 N72-25260  
Thermal compensating structural member  
[NASA-CASE-MFS-20433] c 15 N72-28496  
Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126  
Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c 35 N77-32454

## BINARY CODES

- Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
[NASA-CASE-GSC-10373-1] c 07 N71-19773  
Parallel generation of the check bits of a PN sequence Patent  
[NASA-CASE-XNP-04623] c 10 N71-26103  
Encoder/decoder system for a rapidly synchronizable binary code Patent  
[NASA-CASE-NPO-10342] c 10 N71-33407  
Binary coded sequential acquisition ranging system  
[NASA-CASE-NPO-11194] c 08 N72-25209  
Binary concatenated coding system  
[NASA-CASE-MSC-14082-1] c 60 N76-23850  
Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20289  
Pseudo noise code and data transmission method and apparatus  
[NASA-CASE-GSC-12017-1] c 32 N77-30308  
Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1] c 60 N78-17691  
Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313

## BINARY DATA

- Binary magnetic memory device Patent  
[NASA-CASE-XGS-00174] c 08 N70-34743  
Ripple add and ripple subtract binary counters Patent  
[NASA-CASE-XGS-04766] c 08 N71-18602  
Computing apparatus Patent  
[NASA-CASE-XGS-04765] c 08 N71-18693  
Digital synchronizer Patent  
[NASA-CASE-NPO-10851] c 07 N71-24613  
Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c 32 N74-26654  
Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c 32 N75-24981  
Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1] c 60 N78-17691

## BINARY DIGITS

- Logarithmic converter Patent  
[NASA-CASE-XLA-00471] c 08 N70-34778  
Full binary adder Patent  
[NASA-CASE-XGS-00689] c 08 N70-34787  
Binary number sorter Patent  
[NASA-CASE-NPO-10112] c 08 N71-12502  
Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505  
Display for binary characters Patent  
[NASA-CASE-XGS-04987] c 08 N71-20571  
Comparator for the comparison of two binary numbers Patent  
[NASA-CASE-XNP-04819] c 08 N71-23295  
High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176  
A m-ary linear feedback shift register with binary logic  
[NASA-CASE-NPO-11868] c 10 N73-20254  
Binary concatenated coding system  
[NASA-CASE-MSC-14082-1] c 60 N76-23850

## BINARY FLUIDS

- Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c 35 N75-30503

## BINARY TO DECIMAL CONVERTERS

- Binary to binary-coded-decimal converter Patent  
[NASA-CASE-XNP-00432] c 08 N70-35423  
High speed binary to decimal conversion system Patent  
[NASA-CASE-XGS-01230] c 08 N71-19544

- BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890
- High speed direct binary-to-binary coded decimal converter  
[NASA-CASE-KSC-10326] c 08 N72-21197
- Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1] c 60 N78-17691
- BINDERS (MATERIALS)**
- Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400
- Brazing alloy binder  
[NASA-CASE-XMF-05868] c 26 N75-27125
- Alkali-metal silicate binders and methods of manufacture  
[NASA-CASE-GSC-12303-1] c 24 N79-31347
- BINOULARS**
- Binocular device for displaying numerical information in field of view  
[NASA-CASE-LAR-11782-1] c 74 N77-20882
- BIOASSAY**
- Apparatus for producing three-dimensional recordings of fluorescence spectra Patent  
[NASA-CASE-XGS-01231] c 14 N70-41676
- Flavin coenzyme assay  
[NASA-CASE-GSC-10565-1] c 06 N72-25149
- Method of detecting and counting bacteria in body fluids  
[NASA-CASE-GSC-11092-2] c 04 N73-27052
- Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844
- Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123
- Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c 51 N76-29891
- Automated clinical system for chromosome analysis  
[NASA-CASE-NPO-13913-1] c 52 N79-12694
- Determination of antimicrobial susceptibilities on infected urines without isolation  
[NASA-CASE-GSC-12046-1] c 52 N79-14750
- Method and apparatus for eliminating luminol interference material  
[NASA-CASE-MSC-16260-1] c 51 N80-16714
- BIODEGRADATION**
- Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654
- BIODYNAMICS**
- Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772
- Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280
- BIOELECTRIC POTENTIAL**
- Electrode for biological recording  
[NASA-CASE-XMS-02872] c 05 N69-21925
- Method of making a perspiration resistant biopotential electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120
- Process for control of cell division  
[NASA-CASE-LAR-10773-3] c 51 N77-25769
- BIOELECTRICITY**
- Plated electrodes Patent  
[NASA-CASE-XMS-04213-1] c 09 N71-26002
- Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698
- BIOENGINEERING**
- Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c 33 N74-21851
- Actuator device for artificial leg  
[NASA-CASE-MFS-23225-1] c 52 N77-14735
- Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738
- Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772
- Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612
- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711
- Bio-medical flow sensor --- intravenous procedures  
[NASA-CASE-MSC-18761-1] c 52 N83-27577
- Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744
- Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388
- BIOINSTRUMENTATION**
- Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c 09 N70-35440
- Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193
- Pressed disc type sensing electrodes with ion-screening means Patent  
[NASA-CASE-XMS-04212-1] c 05 N71-12346
- EEG sleep analyzer and method of operation Patent  
[NASA-CASE-MSC-13282-1] c 05 N71-24729
- Plated electrodes Patent  
[NASA-CASE-XMS-04213-1] c 09 N71-26002
- Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c 52 N74-20726
- Subminiature insertable force transducer --- including a strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329
- Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c 52 N76-29896
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-1] c 52 N76-33835
- Thermistor holder for skin temperature measurements  
[NASA-CASE-ARC-10855-1] c 52 N77-10780
- Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-KSC-11030-1] c 52 N77-25772
- Corneal seal device  
[NASA-CASE-LEW-12258-1] c 52 N77-28716
- Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717
- Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580
- Induction powered biological radiosonde  
[NASA-CASE-ARC-11120-1] c 52 N80-18691
- Pulse transducer with artifact signal attenuator --- heart rate sensors  
[NASA-CASE-FRC-11012-1] c 52 N80-23969
- Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MSC-16777-1] c 51 N80-27067
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- Logic-controlled occlusive cuff system  
[NASA-CASE-MSC-14836-1] c 52 N82-11770
- Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-29863
- BIOLOGICAL FEEDBACK**
- Bio-reactor cell culture process  
[NASA-CASE-MSC-21293-1] c 51 N89-14666
- BIOluminescence**
- Light detection instrument Patent  
[NASA-CASE-XGS-05534] c 23 N71-16355
- Lyophilized reaction mixtures Patent  
[NASA-CASE-XGS-05532] c 06 N71-17705
- Application of luciferase assay for ATP to antimicrobial drug susceptibility  
[NASA-CASE-GSC-12039-1] c 51 N77-22794
- Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569
- BIOMEDICAL DATA**
- Biomedical radiation detecting probe Patent  
[NASA-CASE-XMS-01177] c 05 N71-19440
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-2] c 52 N79-26771
- BIOMETRICS**
- Pressed disc type sensing electrodes with ion-screening means Patent  
[NASA-CASE-XMS-04212-1] c 05 N71-12346
- Compressible biomedical electrode  
[NASA-CASE-MSC-13648] c 05 N72-27103
- Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c 52 N74-20726
- Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c 52 N74-27566
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-1] c 52 N76-33835
- Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-2] c 52 N79-26771
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- Multifunctional transducer  
[NASA-CASE-NPO-14329-1] c 52 N81-20703
- Sweat collection capsule  
[NASA-CASE-ARC-11031-1] c 52 N81-29763
- Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941
- BIOREACTORS**
- Horizontally rotated cell culture system  
[NASA-CASE-MSC-21294-1] c 51 N89-13131
- BIOtechnology**
- Bio-reactor cell culture process  
[NASA-CASE-MSC-21293-1] c 51 N89-14666
- BIOTELEMETRY**
- Telemeter adaptable for implanting in an animal Patent  
[NASA-CASE-XAC-05706] c 05 N71-12342
- Miniature multichannel biotelemetry system  
[NASA-CASE-NPO-13065-1] c 52 N74-26625
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757
- Accelerometer telemetry system  
[NASA-CASE-ARC-10849-1] c 17 N76-29347
- Miniature ingestible telemeter devices to measure deep-body temperature  
[NASA-CASE-ARC-10583-1] c 52 N76-29894
- BIPOLAR TRANSISTORS**
- Voltage regulator for battery power source --- using a bipolar transistor  
[NASA-CASE-FRC-10116-1] c 33 N79-23345
- Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494
- BIREFRINGENCE**
- Polarimeter for transient measurement Patent  
[NASA-CASE-XNP-08883] c 23 N71-16101
- BISMALEIMIDE**
- Amine terminated bisaspartimide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726
- Process for curing bismaleimide resins  
[NASA-CASE-ARC-11429-4CU] c 27 N87-15304
- Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908
- BISMUTH**
- Manganese bismuth films with narrow transfer characteristics for Curie-point switching  
[NASA-CASE-NPO-11336-1] c 76 N79-16678
- BISMUTH COMPOUNDS**
- Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c 35 N75-13213
- BISTABLE CIRCUITS**
- AC logic flip-flop circuits Patent  
[NASA-CASE-XGS-00823] c 10 N71-15910
- BIT SYNCHRONIZATION**
- Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333
- Transition tracking bit synchronization system  
[NASA-CASE-NPO-10844] c 07 N72-20140
- Apparatus for deriving synchronizing pulses from pulses in a single channel PCM communications system  
[NASA-CASE-NPO-11302-1] c 07 N73-13149
- Method and apparatus for a single channel digital communications system --- synchronization of received PCM signal by digital correlation with reference signal  
[NASA-CASE-NPO-11302-2] c 32 N74-10132
- BITERNARY CODE**
- Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917
- BITS**
- Parallel generation of the check bits of a PN sequence Patent  
[NASA-CASE-XNP-04623] c 10 N71-26103
- MOD 2 sequential function generator for multibit binary sequence  
[NASA-CASE-NPO-10636] c 08 N72-25210
- Bit error rate measurement above and below bit rate tracking threshold  
[NASA-CASE-MSC-12743-1] c 32 N79-10263
- BITUMENS**
- Oil shale extraction using super-critical extraction  
[NASA-CASE-NPO-15656-1] c 43 N84-23012
- BLACK BODY RADIATION**
- Black-body furnace Patent  
[NASA-CASE-XLE-01399] c 33 N71-15625
- Cavity radiometer Patent  
[NASA-CASE-XNP-08961] c 14 N71-24809
- Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475
- Black body cavity radiometer Patent  
[NASA-CASE-NPO-10810] c 14 N71-27323
- Stable density stratification solar pond  
[NASA-CASE-NPO-15419-2] c 44 N85-30474
- BLADDER**
- Prosthetic urinary sphincter  
[NASA-CASE-MFS-23717-1] c 52 N81-25660
- Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941
- BLADE TIPS**
- Modification and improvements to cooled blades Patent  
[NASA-CASE-XLE-00092] c 15 N70-33264
- Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560
- BLADES**
- Impact absorbing blade mounts for variable pitch blades  
[NASA-CASE-LEW-12313-1] c 37 N78-10468

## BLADES (CUTTERS)

- Line cutter Patent  
[NASA-CASE-XMS-04072] c 15 N70-42017
- Tissue macerating instrument  
[NASA-CASE-LEW-12668-1] c 52 N78-14773
- Crystal cleaving machine  
[NASA-CASE-GSC-12584-1] c 37 N82-32730

## BLAST LOADS

- Linear explosive comparison  
[NASA-CASE-LAR-10800-1] c 33 N72-27959

## BLOOD

- Reduction of blood serum cholesterol  
[NASA-CASE-NPO-12119-1] c 52 N75-15270
- Gas diffusion liquid storage bag and method of use for storing blood  
[NASA-CASE-NPO-13930-1] c 52 N79-14749
- Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687

## BLOOD FLOW

- Logic-controlled occlusive cuff system  
[NASA-CASE-MSC-14836-1] c 52 N82-11770

## BLOOD PRESSURE

- Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317
- Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MSC-13999-1] c 52 N74-26626
- Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c 52 N74-27566
- Circuit for detecting initial systole and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c 54 N75-13531

## BLOOD VESSELS

- Non-invasive method and apparatus for measuring pressure within a pliable vessel  
[NASA-CASE-ARC-11264-2] c 52 N83-29991

## BLUFF BODIES

- Annular supersonic decelerator or drogue Patent  
[NASA-CASE-XLE-00222] c 02 N70-37939

## BLUNT BODIES

- Flow field simulation Patent  
[NASA-CASE-LAR-11138] c 12 N71-20436

## BODIES OF REVOLUTION

- Conforming polisher for aspheric surface of revolution Patent  
[NASA-CASE-XGS-02884] c 15 N71-22705
- Moment of inertia test fixture Patent  
[NASA-CASE-XGS-01023] c 14 N71-22992

## BODY FLUIDS

- Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c 52 N74-22771
- Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c 51 N76-29891
- Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605

## BODY KINEMATICS

- Space suit having improved waist and torso movement  
[NASA-CASE-ARC-10275-1] c 05 N72-22092
- Controller arm for a remotely related slave arm  
[NASA-CASE-ARC-11052-1] c 37 N79-28551
- Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280

## BODY MEASUREMENT (BIOLOGY)

- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-1] c 52 N76-33835
- Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580
- Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280
- Apparatus for determining changes in limb volume  
[NASA-CASE-MSC-18759-1] c 52 N83-27578

## BODY TEMPERATURE

- Garments for controlling the temperature of the body Patent  
[NASA-CASE-XMS-10269] c 05 N71-24147
- Miniature ingestible telemetry devices to measure deep-body temperature  
[NASA-CASE-ARC-10583-1] c 52 N76-29894
- Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618

## BODY VOLUME (BIOLOGY)

- Whole body measurement systems --- for weightlessness simulation  
[NASA-CASE-MSC-13972-1] c 52 N74-10975
- Apparatus for determining changes in limb volume  
[NASA-CASE-MSC-18759-1] c 52 N83-27578

## BODY-WING CONFIGURATIONS

- Free wing assembly for an aircraft  
[NASA-CASE-FRC-10092-1] c 05 N79-12061
- Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279

## BOILERS

- Boiler for generating high quality vapor Patent  
[NASA-CASE-XLE-00785] c 33 N71-16104
- Shell side liquid metal boiler  
[NASA-CASE-NPO-10831] c 33 N72-20915
- Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597

## BOLOMETERS

- Insertion loss measuring apparatus having transformer means connected across a pair of bolometers Patent  
[NASA-CASE-XNP-01193] c 10 N71-16057
- Thin film capacitive bolometer and temperature sensor Patent  
[NASA-CASE-NPO-10607] c 09 N71-27232
- Wedge immersed thermistor bolometers  
[NASA-CASE-XGS-01245-1] c 35 N79-33449

## BOLTED JOINTS

- Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630
- Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361
- Clevis joint for deployable space structures  
[NASA-CASE-LAR-13898-1] c 37 N88-30130

## BOLTS

- Gas actuated bolt disconnect Patent  
[NASA-CASE-XLA-00326] c 03 N70-34667
- Despin weight release Patent  
[NASA-CASE-XLA-00679] c 15 N70-38601
- Inspection gage for boss Patent  
[NASA-CASE-XMF-04966] c 14 N71-17658
- Split nut separation system Patent  
[NASA-CASE-XNP-06914] c 15 N71-21489
- Fastener stretcher  
[NASA-CASE-GSC-11149-1] c 15 N73-30457
- Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630
- Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967

## BONDING

- Bonding graphite with fused silver chloride  
[NASA-CASE-XGS-00963] c 15 N69-39735
- Bonded joint and method --- for reducing peak shear stress in adhesive bonds  
[NASA-CASE-LAR-10900-1] c 37 N74-23064
- Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260
- Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264
- Bonding machine for forming a solar array strip  
[NASA-CASE-NPO-13652-2] c 44 N79-24431
- Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c 24 N79-25143
- Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235
- Attachment system for silica tiles --- thermal protection for space shuttle orbiter  
[NASA-CASE-MSC-18741-1] c 27 N82-29456
- Surface texturing of fluoropolymers  
[NASA-CASE-LEW-13028-1] c 27 N82-33521
- Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324
- Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126
- Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841
- Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334
- Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359
- Method for maintaining precise suction strip porosities  
[NASA-CASE-LAR-13638-1] c 31 N88-29051
- Method of inseting predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258

## BONES

- Ultrasonic bone densitometer  
[NASA-CASE-MFS-20994-1] c 35 N75-12271
- Method and system for in vivo measurement of bone tissue using a two level energy source  
[NASA-CASE-MSC-14276-1] c 52 N77-14737
- Method of adhering bone to a rigid substrate using a graphite fiber reinforced bone cement  
[NASA-CASE-NPO-13764-1] c 27 N78-17215

## BOOMS (EQUIPMENT)

- Folding boom assembly Patent  
[NASA-CASE-XGS-00938] c 32 N70-41367
- Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191

- Minimech self-deploying boom mechanism  
[NASA-CASE-GSC-10566-1] c 15 N72-18477
- Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c 03 N72-25021
- Extended moment arm anti-spin device  
[NASA-CASE-LAR-12979-1] c 05 N85-21147
- Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621
- BOOSTER RECOVERY**  
Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176
- Recoverable single stage spacecraft booster Patent  
[NASA-CASE-XMF-01973] c 31 N70-41588
- Orbiter/launch system  
[NASA-CASE-LAR-12250-1] c 14 N81-26161
- BOOSTER ROCKET ENGINES**  
Segmented back-up bar Patent  
[NASA-CASE-XMF-00640] c 15 N70-39924
- Recoverable single stage spacecraft booster Patent  
[NASA-CASE-XMF-01973] c 31 N70-41588
- Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784
- Earth-to-orbit vehicle providing a reusable orbital stage and method of utilizing same  
[NASA-CASE-LAR-10400-1] c 16 N87-29582
- BOOTS (FOOTWEAR)**  
Walking boot assembly  
[NASA-CASE-ARC-11101-1] c 54 N78-17675
- BOREHOLES**  
Method for machining holes in composite materials  
[NASA-CASE-MFS-28044-1] c 31 N87-25491
- BORIDES**  
Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040
- BORING MACHINES**  
Boring bar drive mechanism Patent  
[NASA-CASE-XLA-03661] c 15 N71-33518
- Borehole geological assessment  
[NASA-CASE-NPO-14231-1] c 46 N80-10709
- BORON**  
Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c 76 N74-20329
- BORON CARBIDES**  
Catalyst for growth of boron carbide single crystal whiskers  
[NASA-CASE-XHQ-03903] c 15 N69-21922
- BORON CHLORIDES**  
Preparation of B-trichloroborazine  
[NASA-CASE-ARC-11643-1-SB] c 23 N87-23698
- BORON COMPOUNDS**  
Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040
- BORON FLUORIDES**  
Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233
- BOROSILICATE GLASS**  
Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520
- BOULES**  
Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650
- BOUNDARY LAYER CONTROL**  
Double hinged flap Patent  
[NASA-CASE-XLA-01290] c 02 N70-42016
- Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968
- Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575
- BOUNDARY LAYER FLOW**  
Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071
- BOUNDARY LAYER SEPARATION**  
Tertiary flow injection thrust vectoring system Patent  
[NASA-CASE-MFS-20831] c 28 N71-29153
- Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LEW-11593-1] c 20 N76-14190
- Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976
- BOUNDARY LAYER TRANSITION**  
Detection of the transitional layer between laminar and turbulent flow areas on a wing surface --- using an accelerometer to measure pressure levels during wind tunnel tests  
[NASA-CASE-LAR-12261-1] c 02 N80-20224

- Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575
- Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759
- Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551
- BOUNDARY LAYERS**
- Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692
- Apparatus for sensing temperature  
[NASA-CASE-XLE-05230] c 14 N72-27410
- BOXES (CONTAINERS)**
- Storage container for electronic devices Patent  
[NASA-CASE-MFS-20075] c 09 N71-26133
- Double window viewing chamber assembly  
[NASA-CASE-MFS-28057-1] c 09 N87-14355
- BRACKETS**
- Electrical servo actuator bracket --- fuel control valves on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483
- Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334
- Locking hinge  
[NASA-CASE-MSC-21056-1] c 18 N88-23827
- BRILLE**
- Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372
- BRAKES**
- Preloaded brake disc  
[NASA-CASE-MSC-21132-1] c 37 N88-29181
- BRAKES (FOR ARRESTING MOTION)**
- Frangible tube energy dissipation Patent  
[NASA-CASE-XLA-00754] c 15 N70-34850
- Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067
- Sprag solenoid brake --- development and operations of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c 37 N74-26976
- Reel safety brake  
[NASA-CASE-GSC-11960-1] c 37 N77-14479
- Motion restraining device  
[NASA-CASE-NPO-13619-1] c 37 N78-16369
- Moving body velocity arresting line --- stainless steel cables with energy absorbing sleeves  
[NASA-CASE-LAR-12372-1] c 37 N82-18601
- BRAKING**
- Regenerative braking system Patent  
[NASA-CASE-XMF-01096] c 10 N71-16030
- Linear magnetic brake with two windings Patent  
[NASA-CASE-XLE-05079] c 15 N71-17652
- Anemometer with braking mechanism Patent  
[NASA-CASE-XMF-05224] c 14 N71-23726
- BRAZING**
- Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471
- Process for applying a protective coating for salt bath brazing Patent  
[NASA-CASE-XLE-00046] c 15 N70-33311
- Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443
- Brazing alloy Patent  
[NASA-CASE-XNP-03063] c 17 N71-23365
- Brazing alloy binder  
[NASA-CASE-XMF-05868] c 26 N75-27125
- Brazing alloy composition  
[NASA-CASE-XMF-06053] c 26 N75-27126
- Brazing alloy  
[NASA-CASE-XNP-03878] c 26 N75-27127
- Method of fluxless brazing and diffusion bonding of aluminum containing components  
[NASA-CASE-MSC-14435-1] c 37 N76-18455
- BREATHING APPARATUS**
- Transfer valve Patent  
[NASA-CASE-XAC-01158] c 15 N71-23051
- Self-contained breathing apparatus  
[NASA-CASE-MSC-14733-1] c 54 N76-24900
- Portable breathing system --- a breathing apparatus using a rebreathing system of heat exchangers for carbon dioxide removal  
[NASA-CASE-MSC-16182-1] c 54 N80-10799
- BRICKS**
- Foldable construction block  
[NASA-CASE-MSC-12233-2] c 32 N73-13921
- BRIDGMAN METHOD**
- Apparatus and procedure to detect a liquid-solid interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713
- BRIGHTNESS**
- Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479
- BRIGHTNESS DISCRIMINATION**
- Television signal processing system Patent  
[NASA-CASE-NPO-10140] c 07 N71-24742
- Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c 05 N73-26072
- Illumination control apparatus for compensating solar light  
[NASA-CASE-KSC-11010-1] c 74 N79-12890
- BRITTLENESS**
- Rock sampling --- apparatus for controlling particle size  
[NASA-CASE-XNP-10007-1] c 46 N74-23068
- Rock sampling --- method for controlling particle size distribution  
[NASA-CASE-XNP-09755] c 46 N74-23069
- Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900
- BROADBAND**
- Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462
- Flexible blade antenna Patent  
[NASA-CASE-MSC-12101] c 09 N71-18720
- Broadband frequency discriminator Patent  
[NASA-CASE-NPO-10096] c 07 N71-24583
- Broadband microwave waveguide window Patent  
[NASA-CASE-XNP-08880] c 09 N71-24808
- High-gain, broadband traveling wave maser Patent  
[NASA-CASE-NPO-10548] c 16 N71-24831
- Wideband VCO with high phase stability Patent  
[NASA-CASE-XLA-03893] c 10 N71-27271
- Composite antenna feed  
[NASA-CASE-GSC-11046-1] c 07 N73-28013
- Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278
- Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-19597
- Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723
- BROADBAND AMPLIFIERS**
- Broadband stable power multiplier Patent  
[NASA-CASE-XNP-10854] c 10 N71-26331
- Cascaded complementary pair broadband transistor amplifiers Patent  
[NASA-CASE-NPO-10003] c 10 N71-26415
- BROADCASTING**
- Vehicle locating system utilizing AM broadcasting station carriers  
[NASA-CASE-NPO-13217-1] c 32 N75-26194
- BROMINATION**
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380
- Brominated graphite fibers and method of producing the same  
[NASA-CASE-LEW-14698-1] c 24 N88-29888
- BROMINE**
- Hydrogen-bromine secondary battery  
[NASA-CASE-NPO-13237-1] c 44 N76-18641
- BROMINE COMPOUNDS**
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451
- BRONZES**
- Thin wire pointing method  
[NASA-CASE-NPO-15789-1] c 31 N83-19947
- BRUSHES**
- Method of making impurity-type semiconductor electrical contacts Patent  
[NASA-CASE-XMF-01016] c 26 N71-17818
- BRUSHES (ELECTRICAL CONTACTS)**
- Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017
- BUBBLES**
- Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442
- Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781
- BUCKLING**
- Miniature vibration isolator Patent  
[NASA-CASE-XLA-01019] c 15 N70-40156
- Compression test assembly  
[NASA-CASE-LAR-10440-1] c 14 N73-32323
- BUFFER STORAGE**
- Data handling system based on source significance, storage availability and data received from the source Patent Application  
[NASA-CASE-XNP-04162-1] c 08 N70-34675
- Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255
- Buffered analog converter  
[NASA-CASE-KSC-10397] c 08 N72-25206
- Common data buffer system --- communication with computational equipment utilized in spacecraft operations  
[NASA-CASE-KSC-11048-1] c 62 N81-24779
- Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372
- BUFFERS (CHEMISTRY)**
- Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187
- BUILDINGS**
- Foldable construction block  
[NASA-CASE-MSC-12233-1] c 15 N72-25454
- BULBS**
- External bulb variable volume maser  
[NASA-CASE-GSC-12334-1] c 36 N79-14362
- BULKHEADS**
- Tank construction for space vehicles Patent  
[NASA-CASE-XMF-01899] c 31 N70-41948
- Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977
- BUOYANCY**
- Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063
- BURNERS**
- Micronized coal burner facility  
[NASA-CASE-LEW-13426-1] c 25 N84-16276
- BURNING RATE**
- Burning rate control of solid propellants Patent  
[NASA-CASE-XLE-03494] c 27 N71-21819
- Burn rate testing apparatus  
[NASA-CASE-XMS-09690] c 33 N72-25913
- Nitramine propellants --- gun propellant burning rate  
[NASA-CASE-NPO-14103-1] c 28 N78-31255
- BURNOUT**
- Spherically-shaped rocket motor Patent  
[NASA-CASE-XHQ-01897] c 28 N70-35381
- BURNS (INJURIES)**
- Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783
- BUS CONDUCTORS**
- Test apparatus for locating shorts during assembly of electrical buses  
[NASA-CASE-ARC-11116-1] c 33 N82-24420
- BUTANES**
- Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227
- BUTT JOINTS**
- Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860
- Segmented back-up bar Patent  
[NASA-CASE-XMF-00640] c 15 N70-39924
- Apparatus for welding sheet material --- butt joints  
[NASA-CASE-XMS-01330] c 37 N75-27376
- BUTTERFLY VALVES**
- Flexible seal for valves Patent  
[NASA-CASE-XLE-00101] c 15 N70-33376
- BUTYRIC ACID**
- Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227
- BYPASSES**
- Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317
- Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c 07 N69-24323
- Current regulating voltage divider  
[NASA-CASE-MFS-20935] c 09 N71-34212
- Use of unilluminated solar cells as shunt diodes for a solar array  
[NASA-CASE-GSC-10344-1] c 03 N72-27053
- Shunt regulation electric power system  
[NASA-CASE-GSC-10135] c 33 N78-17296
- Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293
- Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095

## CABLE FORCE RECORDERS

- Winch having cable position and load indicators Patent  
[NASA-CASE-MSC-12052-1] c 15 N71-24599
- CABLES**
- Cable restraint  
[NASA-CASE-LAR-10129-1] c 15 N73-25512
- Deployable flexible tunnel  
[NASA-CASE-MFS-22636-1] c 37 N76-22540

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## CABLES (ROPES)

- High-voltage cable Patent  
[NASA-CASE-XNP-00738] c 09 N70-38201
- Cable arrangement for rigid tethering Patent  
[NASA-CASE-XLA-02332] c 32 N71-17609
- Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701
- Satellite appendage tie down cord Patent  
[NASA-CASE-XGS-02554] c 31 N71-21064
- Quick attach mechanism Patent  
[NASA-CASE-XFR-05421] c 15 N71-22994
- Flexible/rigidifiable cable assembly  
[NASA-CASE-MSC-13512-1] c 15 N72-22485
- Cable stabilizer for open shaft elevators  
[NASA-CASE-KSC-10513] c 15 N72-25453
- Reefing system  
[NASA-CASE-LAR-10129-2] c 37 N74-20063
- Emergency descent device  
[NASA-CASE-MFS-23074-1] c 54 N77-21844
- Belt for transmitting power from a cogged driving member to a cogged driven member  
[NASA-CASE-GSC-12289-1] c 37 N80-32717
- Moving body velocity arresting line cables with energy absorbing sleeves  
[NASA-CASE-LAR-12372-1] c 37 N82-18001
- CADMIUM SULFIDES**
- High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c 35 N74-18088
- CDS solid state phase insensitive ultrasonic transducer --- annealing cadmium sulfide crystals  
[NASA-CASE-LAR-12304-1] c 35 N80-20559
- Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826
- CALCIUM**
- Ultrasonic bone densitometer  
[NASA-CASE-MFS-20994-1] c 35 N75-12271
- CALCIUM FLUORIDES**
- Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400
- Method of making self lubricating fluoride-metal composite materials Patent  
[NASA-CASE-XLE-08511-2] c 18 N71-16105
- CALCIUM OXIDES**
- Process for the preparation of calcium superoxide  
[NASA-CASE-ARC-11053-1] c 25 N79-10162
- CALCIUM PHOSPHATES**
- Process for the preparation of brushite crystals  
[NASA-CASE-ERC-10338] c 04 N72-33072
- CALCULATORS**
- Sun angle calculator  
[NASA-CASE-MSC-12617-1] c 35 N76-29552
- CALCULI**
- Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913
- CALIBRATING**
- Self-calibrating displacement transducer Patent  
[NASA-CASE-XLA-00781] c 09 N71-22999
- Pressure transducer calibrator Patent  
[NASA-CASE-XNP-01660] c 14 N71-23036
- Apparatus for testing a pressure responsive instrument Patent  
[NASA-CASE-XMF-04134] c 14 N71-23755
- Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606
- Laser calibrator Patent  
[NASA-CASE-XLA-03410] c 16 N71-25914
- Radar calibration sphere  
[NASA-CASE-XLA-11154] c 07 N72-21117
- Gauge calibration by diffusion  
[NASA-CASE-XGS-07752] c 14 N73-30390
- System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c 35 N74-13132
- In situ transfer standard for ultrahigh vacuum gage calibration  
[NASA-CASE-LAR-10862-1] c 35 N74-15092
- Ergometer calibrator --- for any ergometer utilizing rotating shaft  
[NASA-CASE-MFS-21045-1] c 35 N75-15932
- Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity  
[NASA-CASE-LAR-11435-1] c 35 N76-15432
- High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c 35 N76-24523
- Electronically scanned pressure sensor module with in situ calibration capability  
[NASA-CASE-LAR-12230-1] c 35 N79-14347
- Calibrating pressure switch  
[NASA-CASE-XMF-04494-1] c 33 N79-33392
- Electromagnetic power absorber  
[NASA-CASE-NPO-13830-1] c 32 N80-14281
- Automatic flowmeter calibration system  
[NASA-CASE-KSC-11076-1] c 34 N81-26402
- Method and apparatus for precision control of radiometer  
[NASA-CASE-NPO-15398-1] c 35 N84-22931

- Strain gage calibration  
[NASA-CASE-LAR-12743-1] c 35 N84-28019
- Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767
- Method and apparatus for self-calibration and phasing of array antenna  
[NASA-CASE-NPO-15920-1] c 33 N85-21493
- Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276
- Simulator scene display evaluation device  
[NASA-CASE-ARC-11504-1] c 09 N86-32447
- Spinning disk calibration method and apparatus for laser Doppler velocimeter  
[NASA-CASE-ARC-11510-1] c 35 N86-32697
- Antimultipath communication by injecting tone into null in signal spectrum  
[NASA-CASE-NPO-16414-1-CU] c 32 N87-25511
- Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558

## CALORIMETERS

- Constant temperature heat sink for calorimeters Patent  
[NASA-CASE-XMF-04206] c 33 N71-23051
- Heat flow calorimeter --- measures output of Ni-Cd batteries  
[NASA-CASE-GSC-11434-1] c 34 N74-27859
- Containerless high temperature calorimeter apparatus  
[NASA-CASE-MFS-23923-1] c 35 N81-19426

## CAMERA SHUTTERS

- Electrically-operated rotary shutter Patent  
[NASA-CASE-XNP-00637] c 14 N70-40273
- Fast opening diaphragm Patent  
[NASA-CASE-XLA-03660] c 15 N71-21060
- Cyclically operable optical shutter  
[NASA-CASE-NPO-10758] c 14 N73-14427
- Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
[NASA-CASE-GSC-11560-1] c 33 N74-20861

## CAMERAS

- Measurement of time differences between luminous events Patent  
[NASA-CASE-XLA-01987] c 23 N71-23976
- Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474
- Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935
- Laser camera and diffusion filter therefore Patent  
[NASA-CASE-NPO-10417] c 16 N71-33410
- Optical binocular scanning apparatus  
[NASA-CASE-NPO-11002] c 14 N72-22441
- On-film optical recording of camera lens settings  
[NASA-CASE-MSC-12363-1] c 14 N73-26431
- Exposure interlock for oscilloscope cameras  
[NASA-CASE-LAR-10319-1] c 14 N73-32322
- Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c 35 N74-17153
- Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014
- Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c 35 N75-19613
- Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MFS-22537-1] c 35 N75-27328
- Holographic motion picture camera with Doppler shift compensation  
[NASA-CASE-MFS-22517-1] c 35 N76-18402

## CAMS

- Controlled caging and uncaging mechanism  
[NASA-CASE-GSC-11063-1] c 37 N77-27400
- Cam-operated pitch-change apparatus  
[NASA-CASE-LEW-13050-1] c 07 N79-14095
- CAM controlled retractable door latch  
[NASA-CASE-MSC-20304-1] c 37 N82-31690

## CANARD CONFIGURATIONS

- Thrust and direction control apparatus Patent  
[NASA-CASE-XLE-03583] c 31 N71-17629
- Supersonic transport --- using canard surfaces  
[NASA-CASE-LAR-11932-1] c 05 N78-32086
- Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231

## CANCER

- Coupling apparatus for ultrasonic medical diagnostic system  
[NASA-CASE-NPO-13935-1] c 52 N79-14751
- Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996

## CANOPIES

- Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c 27 N76-16230
- Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330

- Aircraft canopy lock  
[NASA-CASE-FRC-11065-1] c 05 N83-19737

## CANS

- Canister closing device Patent  
[NASA-CASE-XLA-01446] c 15 N71-21528
- Extrusion can  
[NASA-CASE-NPO-10812] c 15 N73-13464

## CANTILEVER BEAMS

- Inflatable support structure Patent  
[NASA-CASE-XLA-01731] c 32 N71-21045
- Cantilever mounted resilient pad gas bearing  
[NASA-CASE-LEW-12569-1] c 37 N79-10418

## CANTILEVER MEMBERS

- Deployable solar cell array  
[NASA-CASE-NPO-10883] c 31 N72-22874
- Miniature biaxial strain transducer  
[NASA-CASE-LAR-11648-1] c 35 N77-14407

## CAPACITANCE

- Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785
- Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790
- Thin film capacitive bolometer and temperature sensor Patent  
[NASA-CASE-NPO-10607] c 09 N71-27232
- Capacitive tank gaging apparatus being independent of liquid distribution  
[NASA-CASE-MFS-21629] c 14 N72-22442
- Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c 33 N74-32712
- Direct reading inductance meter  
[NASA-CASE-NPO-13792-1] c 35 N77-32455
- Dynamic capacitor having a peripherally driven element and system incorporating the same  
[NASA-CASE-XNP-02899-1] c 33 N79-21265
- Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895
- Ice detector  
[NASA-CASE-LAR-13776-1] c 35 N88-29149

## CAPACITANCE SWITCHES

- Electrical discharge apparatus for forming Patent  
[NASA-CASE-XMF-00375] c 15 N70-34249
- Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34819
- Feedback integrator with grounded capacitor Patent  
[NASA-CASE-XAC-10607] c 10 N71-23669

## CAPACITORS

- Temperature sensitive capacitor device  
[NASA-CASE-XNP-09750] c 14 N69-39937
- Space vehicle electrical system Patent  
[NASA-CASE-XMF-00517] c 03 N70-34157
- Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c 14 N70-36618
- Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent  
[NASA-CASE-XLE-01246] c 14 N71-10797
- Capacitor and method of making same Patent  
[NASA-CASE-LEW-10364-1] c 09 N71-13522
- Measurement of time differences between luminous events Patent  
[NASA-CASE-XLA-01987] c 23 N71-23976
- Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225
- Thermoelectric radiometer utilizing polymer film  
[NASA-CASE-ARC-10138-1] c 14 N72-24477
- Screened circuit capacitors  
[NASA-CASE-LAR-10294-1] c 26 N72-28762
- Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477
- Insulated electrocardiographic electrodes --- without paste electrolyte  
[NASA-CASE-MSC-14339-1] c 05 N75-24716
- High temperature beryllium oxide capacitor  
[NASA-CASE-LEW-11938-1] c 33 N76-15373
- Energy storage apparatus  
[NASA-CASE-GSC-12030-1] c 44 N78-24608
- Regulated high efficiency, lightweight capacitor-diode multiplier dc to dc converter  
[NASA-CASE-LEW-12791-1] c 33 N78-32341
- Dynamic capacitor having a peripherally driven element and system incorporating the same  
[NASA-CASE-XNP-02899-1] c 33 N79-21265
- Laser activated MTOS microwave device  
[NASA-CASE-NPO-16112-1] c 33 N86-19516
- Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953
- CAPILLARY FLOW**
- Capillary radiator Patent  
[NASA-CASE-XLE-03307] c 33 N71-14035

- Fluid lubricant system Patent  
[NASA-CASE-XNP-03972] c 15 N71-23048
- Soldering device Patent  
[NASA-CASE-XLA-08911] c 15 N71-27214
- Capillary flow weld-bonding  
[NASA-CASE-LAR-11726-1] c 37 N76-27568
- Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133
- Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392
- CAPILLARY TUBES**
- Fluid flow restrictor Patent  
[NASA-CASE-NPO-10117] c 15 N71-15608
- Water separating system Patent  
[NASA-CASE-XMS-13052] c 14 N71-20427
- Mercury capillary interrupter Patent  
[NASA-CASE-XNP-02251] c 12 N71-20896
- Diffused waveguiding capillary tube with distributed feedback for a gas laser  
[NASA-CASE-NPO-13544-1] c 36 N76-18428
- CARBAZOLES**
- Method of using photovoltaic cell using poly-N-vinylcarbazole complex Patent  
[NASA-CASE-NPO-10373] c 03 N71-18698
- CARBIDES**
- Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748
- Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585
- CARBOHYDRATES**
- Decontamination of petroleum products Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499
- CARBON**
- Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184
- Electrophotolysis oxidation system for measurement of organic concentration in water  
[NASA-CASE-MS-16497-1] c 25 N82-12166
- Apparatus and method for destructive removal of particles contained in flowing fluid  
[NASA-CASE-NPO-15426-1] c 35 N84-17555
- Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205
- Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153
- Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597
- Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587
- Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-23917
- Cryogenic regenerator including saran-carbon heat conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946
- CARBON ARCS**
- Water cooled contactor for anode in carbon arc mechanism  
[NASA-CASE-XMS-03700] c 15 N69-24266
- Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267
- CARBON COMPOUNDS**
- Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00284] c 15 N71-16075
- Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152
- Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695
- CARBON DIOXIDE**
- Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015
- Miniature carbon dioxide sensor and methods  
[NASA-CASE-MS-13332-1] c 14 N72-21408
- Metabolic rate meter and method  
[NASA-CASE-MS-12239-1] c 52 N79-21750
- CARBON DIOXIDE LASERS**
- Repetitively pulsed, wavelength selective laser Patent  
[NASA-CASE-ERC-10178] c 16 N71-24832
- Power supply for carbon dioxide lasers  
[NASA-CASE-GSC-11222-1] c 16 N73-32391
- Stark-effect modulation of CO<sub>2</sub> laser with NH<sub>2</sub>D  
[NASA-CASE-NPO-11945-1] c 36 N76-18427
- CARBON DIOXIDE REMOVAL**
- Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c 25 N74-12813
- Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment  
[NASA-CASE-MS-14771-1] c 54 N77-32722
- Portable breathing system --- a breathing apparatus using a rebreathing system of heat exchangers for carbon dioxide removal  
[NASA-CASE-MS-16182-1] c 54 N80-10799
- CARBON FIBER REINFORCED PLASTICS**
- Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915
- Circumferential shaft seal  
[NASA-CASE-LEW-12119-1] c 37 N80-28711
- Curing agent for polyepoxides and epoxy resins and composites cured therewith --- preventing carbon fiber release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260
- CARBON FIBERS**
- Method and device for detection of a substance --- determining carbon fiber release in fire situations  
[NASA-CASE-NPO-14940-1] c 33 N83-31954
- Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950
- High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436
- Brominated graphite fibers and method of producing the same  
[NASA-CASE-LEW-14698-1] c 24 N88-29888
- CARBON MONOXIDE**
- Carbon monoxide monitor --- using real time operation  
[NASA-CASE-MFS-22060-1] c 35 N75-29380
- CARBON-CARBON COMPOSITES**
- Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267
- Lightweight piston  
[NASA-CASE-LAR-13150-1] c 24 N87-27742
- Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981
- CARBONACEOUS MATERIALS**
- Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253
- CARBONATES**
- Polyurethanes of fluorine containing polycarbonates  
[NASA-CASE-MFS-10512] c 06 N73-30099
- Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977
- CARBONIZATION**
- Method of carbonizing polyacrylonitrile fibers  
[NASA-CASE-ARC-11261-1] c 24 N83-25789
- CARBONYL COMPOUNDS**
- Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246
- Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575
- CARBORANE**
- Process for the preparation of polycarbonylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271
- Carboranylchlorotriphosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389
- Carboranymethylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750
- CARBOXYL GROUP**
- Novel polycarboxylic prepolymeric materials and polymers thereof Patent  
[NASA-CASE-NPO-10596] c 06 N71-25929
- CARBOXYLIC ACIDS**
- Preparation of polyimides from mixtures of monomeric diamines and esters of polycarboxylic acids  
[NASA-CASE-LEW-11325-1] c 06 N73-27980
- Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098
- Metal phthalocyanine polymers  
[NASA-CASE-ARC-11405-1] c 27 N84-27884
- Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144
- Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455
- CARCINOGENS**
- Apparatus for producing three-dimensional recordings of fluorescence spectra Patent  
[NASA-CASE-XGS-01231] c 14 N70-41676
- CARDIAC VENTRICLES**
- Contour detector and data acquisition system for the left ventricular outline  
[NASA-CASE-ARC-10985-1] c 52 N79-10724
- CARDIOGRAPHY**
- Digital cardiachometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896
- Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c 54 N75-27760
- CARDIOLOGY**
- Ratemeter  
[NASA-CASE-MFS-20418] c 14 N73-24473
- Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c 52 N76-29895
- CARDIOTACHOMETERS**
- Digital computing cardiachometer  
[NASA-CASE-MFS-20284-1] c 52 N74-12778
- CARDIOVASCULAR SYSTEM**
- G conditioning suit Patent  
[NASA-CASE-XLA-02898] c 05 N71-20268
- Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent  
[NASA-CASE-XAC-05422] c 04 N71-23185
- Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c 52 N76-29896
- Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388
- CARGO**
- Portable pallet weighing apparatus  
[NASA-CASE-GSC-12789-1] c 35 N85-20294
- CARRIER FREQUENCIES**
- Bi-carrier demodulator with modulation Patent  
[NASA-CASE-XMF-01160] c 07 N71-11298
- Automatic carrier acquisition system  
[NASA-CASE-NPO-11628-1] c 07 N73-30113
- Demodulator for carrier transducers  
[NASA-CASE-NUC-10107-1] c 33 N74-17930
- Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c 32 N74-20811
- Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539
- CARRIER LIFETIME**
- Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888
- Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894
- CARRIER WAVES**
- Variable frequency oscillator with temperature compensation Patent  
[NASA-CASE-XNP-03916] c 09 N71-28810
- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c 32 N75-24981
- CARRIERS**
- Storage container for electronic devices Patent  
[NASA-CASE-MFS-20075] c 09 N71-26133
- Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c 34 N74-27744
- CARTESIAN COORDINATES**
- Random function tracer Patent  
[NASA-CASE-XLA-01401] c 15 N71-21179
- CARTRIDGES**
- Endless tape cartridge Patent  
[NASA-CASE-XGS-00769] c 14 N70-41647
- Endless tape transport mechanism Patent  
[NASA-CASE-XGS-01223] c 07 N71-10609
- Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c 25 N74-12813
- CASCADE CONTROL**
- Reversible ring counter employing cascaded single SCR stages Patent  
[NASA-CASE-XGS-01473] c 09 N71-10673
- Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136
- Multiloop RC active filter apparatus having low parameter sensitivity with low amplifier gain  
[NASA-CASE-ARC-10192] c 09 N72-21245
- CASCADE FLOW**
- Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117
- Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293
- Degasifying and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MS-18936-1] c 35 N83-29652
- CASE BONDED PROPELLANTS**
- Solid propellant motor  
[NASA-CASE-NPO-11458A] c 20 N78-32179
- CASES (CONTAINERS)**
- Non-magnetic battery case Patent  
[NASA-CASE-XGS-00886] c 03 N71-11053



Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876

Portable heatable container  
[NASA-CASE-NPO-14237-1] c 44 N80-20808

Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817

**CASSEGRAIN ANTENNAS**  
Cassegrain antenna subreflector flange for suppressing ground noise Patent  
[NASA-CASE-XNP-00683] c 09 N70-35425

Multi-feed cone Cassegrain antenna Patent  
[NASA-CASE-NPO-10539] c 07 N71-11285

Millimeter wave radiometer for radio astronomy Patent  
[NASA-CASE-XNP-09832] c 30 N71-23723

Dual frequency microwave reflex feed  
[NASA-CASE-NPO-13091-1] c 09 N73-12214

Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c 32 N74-11000

**CASTING**  
Hydraulic casting of liquid polymers Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975

Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440

High intensity casting system  
[NASA-CASE-NPO-16901-1-CU] c 31 N87-15327

Castable hot corrosion resistant alloy  
[NASA-CASE-LEW-14134-2] c 26 N89-14303

**CASTINGS**  
Method of making an apertured casting --- using duplicate mold  
[NASA-CASE-LEW-11169-1] c 37 N76-23570

**CATALYSIS**  
Decomposition unit Patent  
[NASA-CASE-XMS-00583] c 28 N70-38504

Apparatus for photon excited catalysis  
[NASA-CASE-NPO-13566-1] c 25 N77-32255

Start up system for hydrogen generator used with an internal combustion engine  
[NASA-CASE-NPO-13849-1] c 28 N80-10374

**CATALYSTS**  
Catalyst for growth of boron carbide single crystal whiskers  
[NASA-CASE-XHQ-03903] c 15 N69-21922

Catalyst bed removing tool Patent  
[NASA-CASE-XFR-00811] c 15 N70-36901

Ignition means for monopropellant Patent  
[NASA-CASE-XNP-00876] c 28 N70-41311

Hydrogen leak detection device Patent  
[NASA-CASE-MFS-11537] c 14 N71-20442

Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c 25 N74-12813

Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116

Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950

Photoelectrochemical electrodes  
[NASA-CASE-NPO-15458-1] c 25 N84-12262

Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721

**CATALYTIC ACTIVITY**  
Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808

**CATHETERIZATION**  
Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597

Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c 52 N76-29896

Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785

Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095

**CATHODE RAY TUBES**  
Single or joint amplitude distribution analyzer Patent  
[NASA-CASE-XNP-01383] c 09 N71-10659

Display for binary characters Patent  
[NASA-CASE-XGS-04987] c 08 N71-20571

Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent  
[NASA-CASE-NPO-10625] c 09 N71-26182

Color television systems using a single gun color cathode ray tube Patent  
[NASA-CASE-ERC-10098] c 09 N71-28618

High contrast cathode ray tube  
[NASA-CASE-ERC-10468] c 09 N72-20206

Digital video display system using cathode ray tube  
[NASA-CASE-NPO-11342] c 09 N72-25248

CRT blanking and brightness control circuit  
[NASA-CASE-KSC-10647-1] c 10 N72-31273

Display system  
[NASA-CASE-ERC-10350] c 14 N73-20474

Very high intensity light source using a cathode ray tube --- electron beams  
[NASA-CASE-XNP-01296] c 33 N75-27250

**CATHODES**  
Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422

Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent  
[NASA-CASE-XLE-04501] c 09 N71-23190

Heat activated cell with alkali anode and alkali salt electrolyte Patent  
[NASA-CASE-LEW-11358] c 03 N71-26084

Ion thruster with a combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c 28 N73-24783

Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
[NASA-CASE-NPO-11806-1] c 44 N74-19693

Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680

Apparatus for mounting a field emission cathode  
[NASA-CASE-LEW-14108-1] c 33 N87-28832

**CATIONS**  
Ionene membrane separator  
[NASA-CASE-NPO-11091] c 18 N72-22567

Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104

Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360

**CAVITATION FLOW**  
Semitoroidal diaphragm cavitating valve Patent  
[NASA-CASE-XNP-09704] c 12 N71-18615

**CAVITIES**  
Black body cavity radiometer Patent  
[NASA-CASE-NPO-10810] c 14 N71-27323

Method of coating through-holes Patent  
[NASA-CASE-XMF-05999] c 15 N71-29032

Burrowing apparatus  
[NASA-CASE-XNP-07169] c 15 N73-32362

Method of constructing dished ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276

Method of making hollow elastomeric bodies  
[NASA-CASE-NPO-13535-1] c 37 N76-31524

Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319

Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MSC-18606-1] c 32 N82-11336

High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523

Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143

Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232

Passive venting technique for shallow cavities  
[NASA-CASE-LAR-13875-1] c 05 N89-14233

Circumferential pressure probe  
[NASA-CASE-LAR-13775-1] c 35 N89-14408

**CAVITY RESONATORS**  
Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c 07 N69-24323

System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MSC-12259-1] c 07 N70-12616

Temperature-compensating means for cavity resonator of amplifier Patent  
[NASA-CASE-XNP-00449] c 14 N70-35220

Holder for crystal resonators Patent  
[NASA-CASE-XNP-03637] c 15 N71-21311

System for improving signal-to-noise ratio of a communication signal  
[NASA-CASE-MSC-12259-2] c 07 N72-33146

Infrared tunable laser  
[NASA-CASE-ARC-10463-1] c 09 N73-32111

Tunable cavity resonator with ramp shaped supports  
[NASA-CASE-HQN-10790-1] c 36 N74-11313

Laser apparatus  
[NASA-CASE-GSC-12237-1] c 36 N80-14384

Laser Resonator  
[NASA-CASE-GSC-12565-1] c 36 N84-14509

Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065

Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143

## CELESTIAL BODIES

Device for determining relative angular position between a spacecraft and a radiation emitting celestial body  
[NASA-CASE-GSC-11444-1] c 14 N73-28490

Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MSC-12593-1] c 17 N76-21250

## CELESTIAL NAVIGATION

Radiant energy intensity measurement system Patent  
[NASA-CASE-XNP-06510] c 14 N71-23797

## CELL ANODES

Heat activated cell Patent  
[NASA-CASE-LEW-11359] c 03 N71-28579

Method of making emf cell  
[NASA-CASE-LEW-11359-2] c 03 N72-20034

Electrically rechargeable REDOX flow cell  
[NASA-CASE-LEW-12220-1] c 44 N77-14581

## CELL DIVISION

Process for control of cell division  
[NASA-CASE-LAR-10773-3] c 51 N77-25769

## CELLS

Mixture separation cell Patent  
[NASA-CASE-XMS-02952] c 18 N71-20742

## CELLS (BIOLOGY)

System for and method of freezing biological tissue  
[NASA-CASE-GSC-12173-1] c 51 N79-10694

Method for separating biological cells --- suspended in aqueous polymer systems  
[NASA-CASE-MFS-23883-1] c 51 N80-16715

Electrophoresis device  
[NASA-CASE-MFS-25426-1] c 25 N83-10126

Horizontally rotated cell culture system  
[NASA-CASE-MSC-21294-1] c 51 N89-13131

Bio-reactor cell culture process  
[NASA-CASE-MSC-21293-1] c 51 N89-14666

## CELLULOSE

Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641

Separator for alkaline electric cells and method of making  
[NASA-CASE-GSC-10017-1] c 44 N82-24643

Alkaline electrochemical cells and method of making  
[NASA-CASE-GSC-10349-1] c 44 N82-24645

Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370

## CELLULOSE NITRATE

Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267

## CENTERBODIES

Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765

## CENTRAL PROCESSING UNITS

Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651

## CENTRIFUGAL COMPRESSORS

Centrifugal-reciprocating compressor  
[NASA-CASE-NPO-14597-2] c 37 N84-28081

## CENTRIFUGAL FORCE

Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090

## CENTRIFUGES

Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815

Separator Patent  
[NASA-CASE-XLA-00415] c 15 N71-16079

Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c 34 N74-30608

Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c 34 N75-26282

Biocentrifuge system capable of exchanging specimen cages while in operational mode  
[NASA-CASE-MFS-23825-1] c 51 N81-32829

## CERAMIC BONDING

Method of making a diffusion bonded refractory coating Patent  
[NASA-CASE-XLE-01604-2] c 15 N71-15610

Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312

Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981

## CERAMIC COATINGS

Evaporant holder  
[NASA-CASE-XLA-03105] c 15 N69-27483

Unfired-ceramic flame-resistant insulation and method of making the same Patent  
[NASA-CASE-XMF-01030] c 18 N70-41583

Ceramic insulation for radiant heating environments and method of preparing the same Patent  
[NASA-CASE-MFS-14253] c 33 N71-24858

- Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729
- Two-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c 27 N76-22377
- Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c 27 N76-23426
- Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492
- Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996
- Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855
- Thermal barrier coating system  
[NASA-CASE-LEW-13324-2] c 24 N85-21266
- Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628
- CERAMIC HONEYCOMBS**  
Ceramic honeycomb structures and the method thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737
- CERAMIC MATRIX COMPOSITES**  
Fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-2] c 27 N87-27810
- Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656
- CERAMIC NUCLEAR FUELS**  
Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729
- CERAMICS**  
Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226
- Foamed in place ceramic refractory insulating material Patent  
[NASA-CASE-XGS-02435] c 18 N71-22998
- Method for fiberizing ceramic materials Patent  
[NASA-CASE-XNP-00597] c 18 N71-23088
- Method of coating through-holes Patent  
[NASA-CASE-XMF-05999] c 15 N71-29032
- Extrusion can  
[NASA-CASE-NPO-10812] c 15 N73-13464
- Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c 18 N73-14584
- Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206
- High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302
- Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221
- High temperature resistant cermet and ceramic compositions  
[NASA-CASE-NPO-13690-2] c 27 N79-14213
- Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748
- Method of fabricating an abradable gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957
- Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886
- Fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-2] c 27 N87-27810
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040
- Lightweight ceramic insulation and method  
[NASA-CASE-MSC-20782-1] c 27 N89-13620
- CEREBROSPINAL FLUID**  
Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785
- Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095
- CERMETS**  
Process of casting heavy slips Patent  
[NASA-CASE-XLE-00106] c 15 N71-16076
- Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729
- Cermet composition and method of fabrication --- heat resistant alloys and powders  
[NASA-CASE-NPO-13120-1] c 27 N76-15311
- High temperature oxidation resistant cermet compositions  
[NASA-CASE-NPO-13666-1] c 27 N77-13217
- High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302
- High temperature resistant cermet and ceramic compositions  
[NASA-CASE-NPO-13690-2] c 27 N79-14213
- Coating with overlay metallic-cermet alloy systems  
[NASA-CASE-LEW-13639-2] c 26 N84-27855
- Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555
- CESIUM**  
Method for removing oxygen impurities from cesium Patent  
[NASA-CASE-XNP-04262-2] c 17 N71-26773
- Method of producing I-123 --- by bombardment of cesium causing spallation  
[NASA-CASE-LEW-11390-2] c 25 N76-27383
- CESIUM DIODES**  
Thermionic tantalum emitter doped with oxygen Patent Application  
[NASA-CASE-NPO-11138] c 03 N70-34646
- Cavity emitter for thermionic converter Patent  
[NASA-CASE-NPO-10412] c 09 N71-28421
- Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175
- CESIUM ENGINES**  
Variable thrust ion engine utilizing thermally decomposable solid fuel Patent  
[NASA-CASE-XMF-00923] c 28 N70-36802
- Method of producing porous tungsten ionizers for ion rocket engines Patent  
[NASA-CASE-XLE-00455] c 28 N70-38197
- CESIUM VAPOR**  
Electric power generation system directory from laser power  
[NASA-CASE-NPO-13308-1] c 36 N75-30524
- CHALCOGENIDES**  
Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019
- CHAMBERS**  
Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749
- CHANGE DETECTION**  
Real-time image difference detection using a polarization rotation spatial light modulator  
[NASA-CASE-NPO-17144-1-CU] c 74 N88-25305
- CHANNEL FLOW**  
Method of making a regeneratively cooled combustion chamber Patent  
[NASA-CASE-XLE-00150] c 28 N70-41818
- Heated element fluid flow sensor Patent  
[NASA-CASE-MSC-12084-1] c 12 N71-17569
- Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930
- CHANNELS (DATA TRANSMISSION)**  
Automatic fault correction system for parallel signal channels Patent  
[NASA-CASE-XNP-03263] c 09 N71-18843
- Helical recorder arrangement for multiple channel recording on both sides of the tape  
[NASA-CASE-GSC-10614-1] c 09 N72-11224
- Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c 32 N75-26195
- High-speed data link for moderate distances and noisy environments  
[NASA-CASE-NPO-14152-1] c 32 N80-18252
- CHARACTER RECOGNITION**  
Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c 33 N76-18353
- System and method for character recognition  
[NASA-CASE-NPO-11337-1] c 74 N81-19896
- CHARGE COUPLED DEVICES**  
Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288
- CCD correlated quadruple sampling processor  
[NASA-CASE-NPO-14426-1] c 33 N81-27396
- Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247
- Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037
- CHARGE DISTRIBUTION**  
Method of erasing target material of a vidicon tube or the like Patent  
[NASA-CASE-XNP-06028] c 09 N71-23189
- Charge storage diode modulators and demodulators  
[NASA-CASE-NPO-10189-1] c 33 N77-21314
- CHARGE EFFICIENCY**  
State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596
- Method for determining the point of zero zeta potential of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923
- CHARGE EXCHANGE**  
Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c 20 N77-10148
- CHARGE TRANSFER**  
Magnetic counter Patent  
[NASA-CASE-XNP-08836] c 09 N71-12515
- Pressure transducer --- using a monomeric charge transfer complex sensor  
[NASA-CASE-NPO-11150] c 35 N78-17359
- Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727
- CHARGE TRANSFER DEVICES**  
Charge transfer reaction laser with preionization means  
[NASA-CASE-NPO-13945-1] c 36 N78-27402
- Time delay and integration detectors using charge transfer devices  
[NASA-CASE-GSC-12324-1] c 33 N81-33403
- Image readout device with electronically variable spatial resolution  
[NASA-CASE-LAR-12633-1] c 33 N82-24416
- CHARGED PARTICLES**  
Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560
- Electrostatic charged particle analyzer having deflection members shaped according to the periodic voltage applied thereto Patent  
[NASA-CASE-XAC-05506-1] c 24 N71-16095
- Electrostatic collector for charged particles  
[NASA-CASE-LEW-11192-1] c 09 N73-13208
- Method and apparatus for neutralizing potentials induced on spacecraft surfaces  
[NASA-CASE-GSC-11963-1] c 33 N77-10429
- Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575
- Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489
- CHARGING**  
Synchronous orbit battery cyclers  
[NASA-CASE-GSC-11211-1] c 03 N72-25020
- CHARRING**  
Ablation sensor  
[NASA-CASE-XLA-01781] c 14 N69-39975
- Ablation sensor Patent  
[NASA-CASE-XLA-01794] c 33 N71-21586
- CHASSIS**  
Chassis unit insert tightening-extract device  
[NASA-CASE-XMS-01077-1] c 37 N79-33467
- Articulated suspension system  
[NASA-CASE-NPO-17354-1-CU] c 37 N88-24973
- CHECKOUT**  
Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566
- Rapid activation and checkout device for batteries  
[NASA-CASE-MFS-22749-1] c 44 N76-14601
- Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359
- CHELATES**  
Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c 27 N71-14090
- Chelate-modified polymers for atmospheric gas chromatography  
[NASA-CASE-ARC-11154-1] c 25 N80-23383
- CHEMICAL ANALYSIS**  
Analytical test apparatus and method for determining oxide content of alkali metal Patent  
[NASA-CASE-XLE-01997] c 06 N71-23527
- Automated fluid chemical analyzer Patent  
[NASA-CASE-NPO-09451] c 06 N71-26754
- Method for determining presence of OH in magnesium oxide  
[NASA-CASE-NPO-10774] c 06 N72-17095
- Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477
- Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
[NASA-CASE-ARC-10633-1] c 25 N74-26947
- Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844
- Gas chromatograph injection system  
[NASA-CASE-ARC-10344-2] c 35 N75-26334



Alkaline electrochemical cells and method of making  
[NASA-CASE-GSC-10349-1] c 44 N82-24645

Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184

System for monitoring physical characteristics of fluids  
[NASA-CASE-NPO-15400-1] c 34 N83-31993

Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279

**CHEMICAL AUXILIARY POWER UNITS**  
Ion-exchange membrane with platinum electrode assembly Patent  
[NASA-CASE-XMS-02063] c 03 N71-29044

**CHEMICAL BONDS**  
Fluorine-containing polyformals  
[NASA-CASE-XMF-06900-1] c 27 N79-21191

Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016

Preparation of perfluorinated 1,2,4-oxadiazoles  
[NASA-CASE-ARC-11267-2] c 23 N82-28353

**CHEMICAL COMPOSITION**  
Phototropic composition of matter  
[NASA-CASE-XGS-03736] c 14 N72-22443

Nitramine propellants --- gun propellant burning rate  
[NASA-CASE-NPO-14103-1] c 28 N78-31255

Composition and method for making polyimide resin-reinforced fabric  
[NASA-CASE-LEW-12933-1] c 27 N81-19296

Non-toxic invert analog glass compositions of high modulus  
[NASA-CASE-HQN-10328-2] c 27 N82-29454

High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455

Low temperature cross linking polyimides  
[NASA-CASE-LEW-12876-2] c 27 N83-29392

Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof  
[NASA-CASE-LAR-13318-1] c 27 N87-14516

**CHEMICAL COMPOUNDS**  
Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428

**CHEMICAL ELEMENTS**  
Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
[NASA-CASE-LAR-10634-1] c 37 N74-18123

**CHEMICAL ENGINEERING**  
Process for the preparation of calcium superoxide  
[NASA-CASE-ARC-11053-1] c 25 N79-10162

**CHEMICAL EXPLOSIONS**  
Hypervelocity gun --- using both electric and chemical energy for projectile propulsion  
[NASA-CASE-XLE-03186-1] c 09 N79-21084

**CHEMICAL INDICATORS**  
Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

**CHEMICAL MACHINING**  
Masking device Patent  
[NASA-CASE-XNP-02092] c 15 N70-42033

**CHEMICAL PROPERTIES**  
Method of producing alternating ether siloxane copolymers Patent  
[NASA-CASE-XMF-02584] c 06 N71-20905

Polyurethanes of fluorine containing polycarbonates  
[NASA-CASE-MFS-10512] c 06 N73-30099

Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c 06 N73-33076

Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c 37 N74-21058

**CHEMICAL REACTIONS**  
Process for interfacial polymerization of pyromellitic dianhydride and 1,2,4,5-tetraamino-benzene Patent  
[NASA-CASE-XLA-03104] c 06 N71-11235

Synthesis of polymeric schiff bases by schiff-base exchange reactions Patent  
[NASA-CASE-XMF-08651] c 06 N71-11236

Preparation of ordered poly /arylenesiloxane/ polymers  
[NASA-CASE-XMF-10753] c 06 N71-11237

Imidazopyrrolone/imide copolymers Patent  
[NASA-CASE-XLA-08802] c 06 N71-11238

High resolution developing of photosensitive resists Patent  
[NASA-CASE-XGS-04993] c 14 N71-17574

Inorganic solid film lubricants Patent  
[NASA-CASE-XMF-03988] c 15 N71-21403

Process for preparation of dianilinosilanes Patent  
[NASA-CASE-XMF-06409] c 06 N71-23230

Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
[NASA-CASE-XMF-03074] c 06 N71-24740

Hydroxy terminated perfluoro ethers Patent  
[NASA-CASE-NPO-10768] c 06 N71-27254

Metal containing polymers from cyclic tetrameric phenylphosphonitrimides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363

Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372

Epoxy-aziridine polymer product Patent  
[NASA-CASE-NPO-10701] c 06 N71-28620

Process for preparation of high-molecular-weight polyaryloxysilanes Patent  
[NASA-CASE-XMF-08674] c 06 N71-28807

Trialkyl-dihalotantalum and niobium compounds Patent  
[NASA-CASE-XNP-04023] c 06 N71-28808

Method of making foamed materials in zero gravity  
[NASA-CASE-XMF-09902] c 15 N72-11387

Preparation of high purity copper fluoride  
[NASA-CASE-LEW-10794-1] c 06 N72-17093

Firefly pump-metering system  
[NASA-CASE-GSC-10218-1] c 15 N72-21465

Apparatus for producing metal powders  
[NASA-CASE-XLE-06461-2] c 17 N72-28535

Nondestructive spot test method for titanium and titanium alloys  
[NASA-CASE-LAR-10539-1] c 17 N73-12547

Self-cycling fluid heater  
[NASA-CASE-MSC-15567-1] c 33 N73-16916

Method of forming difunctional polyisobutylene  
[NASA-CASE-NPO-10893] c 17 N73-22710

Polyurethanes from fluoroalkyl propyleneglycol polyethers  
[NASA-CASE-MFS-10506] c 06 N73-30100

Fluorine containing polyurethane  
[NASA-CASE-MFS-10509] c 06 N73-30103

Novel polymers and method of preparing same  
[NASA-CASE-NPO-10998-1] c 06 N73-32029

Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c 27 N74-12812

Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c 27 N74-27037

Vapor phase growth of groups 3-5 compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c 25 N75-26043

Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c 27 N76-16228

Method for detecting pollutants --- through chemical reactions and heat treatment  
[NASA-CASE-LAR-11405-1] c 45 N76-31714

Process for preparing higher oxides of the alkali and alkaline earth metals  
[NASA-CASE-ARC-10992-1] c 26 N78-32229

Method for preparing addition type polyimide prepreps  
[NASA-CASE-LAR-12054-2] c 27 N81-14078

The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312

Preparation of perfluorinated 1,2,4-oxadiazoles  
[NASA-CASE-ARC-11267-2] c 23 N82-28353

Process for producing tris (n-methylamino) methylsilane  
[NASA-CASE-MFS-25721-1] c 25 N85-21280

Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-5] c 27 N85-21352

Fire-resistant phosphorus containing polyimides and copolyimides  
[NASA-CASE-ARC-11522-2] c 27 N85-34280

Sulfone-ester polymers containing pendent ethynyl groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450

Preparation of B-trichloroborazine  
[NASA-CASE-ARC-11643-1-SB] c 23 N87-23698

The 1-((diorganoxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605

Method of dispensing reagent chemicals in space  
[NASA-CASE-LAR-13607-1-CU] c 29 N88-29048

**CHEMICAL REACTORS**  
Chemical vapor deposition reactor --- providing uniform film thickness  
[NASA-CASE-NPO-13650-1] c 25 N79-28253

Sodium storage and injection system  
[NASA-CASE-NPO-14384-1] c 37 N80-10494

Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
[NASA-CASE-NPO-14382-1] c 31 N80-18231

Fluidized bed coal combustion reactor  
[NASA-CASE-NPO-14273-1] c 25 N82-11144

Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475

Thermal reactor --- liquid silicon production from silane gas  
[NASA-CASE-NPO-14369-1] c 44 N83-10501

Pressure letdown method and device for coal conversion systems  
[NASA-CASE-NPO-15100-1] c 44 N84-14583

Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

Remotely controllable mixing system  
[NASA-CASE-MFS-28153-1] c 31 N86-32589

**CHEMICAL TESTS**  
Nondestructive spot test method for titanium and titanium alloys  
[NASA-CASE-LAR-10539-1] c 17 N73-12547

Nondestructive spot test method for magnesium and magnesium alloys  
[NASA-CASE-LAR-10953-1] c 17 N73-27446

Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-6] c 25 N85-30039

**CHEMILUMINESCENCE**  
Method and apparatus for eliminating luminol interference material  
[NASA-CASE-MSC-16260-1] c 51 N80-16714

**CHEMISORPTION**  
Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223

**CHEMOTHERAPY**  
Indomethacin antihistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-2] c 52 N81-14613

**CHIPS (ELECTRONICS)**  
Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
[NASA-CASE-NPO-15227-1] c 37 N81-33482

Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441

**CHIRP SIGNALS**  
Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443

**CHLORIDES**  
The 5-(4-Ethynylphenoxy) isophthalic chloride  
[NASA-CASE-LAR-13316-2] c 27 N87-14515

**CHLORINATION**  
Specialized halogen generator for purification of water  
[NASA-CASE-XLA-08913] c 14 N71-28933

Coal desulfurization by aqueous chlorination  
[NASA-CASE-NPO-14902-1] c 25 N82-29371

Hydrodesulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743

**CHLORINE**  
Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253

**CHLOROPRENE RESINS**  
Flexible fire retardant polysiocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c 27 N74-12814

**CHOKES**  
Current dependent filter inductance  
[NASA-CASE-ERC-10139] c 09 N72-17154

**CHOKES (RESTRICTIONS)**  
Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270

**CHOLESTEROL**  
Reduction of blood serum cholesterol  
[NASA-CASE-NPO-12119-1] c 52 N75-15270

**CHROMATOGRAPHY**  
Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
[NASA-CASE-ARC-10633-1] c 25 N74-26947

Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374

**CHROMIUM**  
Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599

Efficiency of silicon solar cells containing chromium  
[NASA-CASE-NPO-15179-1] c 44 N82-26777

Process for improving moisture resistance of epoxy resins by addition of chromium ions  
[NASA-CASE-LAR-13226-1] c 27 N85-34282

Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721

**CHROMIUM ALLOYS**  
Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236

Nickel ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505

**CHROMIUM COMPOUNDS**  
Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205

**CHROMOSOMES**

Automated clinical system for chromosome analysis  
[NASA-CASE-NPO-13913-1] c 52 N79-12694

**CINEMATOGRAPHY**

High speed photo-optical time recording  
[NASA-CASE-KSC-10294] c 14 N72-18411  
Holographic motion picture camera with Doppler shift compensation  
[NASA-CASE-MFS-22517-1] c 35 N76-18402

**CIRCUIT BOARDS**

Electrical feed-through connection for printed circuit boards and printed cable  
[NASA-CASE-XMF-01483] c 14 N69-27431  
Printed cable connector Patent  
[NASA-CASE-XMF-00369] c 09 N70-36494  
Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960  
Electrical spot terminal assembly Patent  
[NASA-CASE-NPO-10034] c 15 N71-17685  
Polyimide resin-fiberglass cloth laminates for printed circuit boards  
[NASA-CASE-MFS-20408] c 18 N73-12604  
Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c 10 N73-25243  
Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c 37 N74-32918  
Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c 37 N75-18573  
Connector --- for connecting circuits on different layers of multilayer printed circuit boards  
[NASA-CASE-LAR-11709-1] c 37 N76-27567  
Traveling wave tube circuit  
[NASA-CASE-LEW-12013-1] c 33 N79-10339  
High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191  
Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118

**CIRCUIT BREAKERS**

Mercury capillary interrupter Patent  
[NASA-CASE-XNP-02251] c 12 N71-20896  
Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796  
Separation simulator Patent  
[NASA-CASE-XKS-04631] c 10 N71-23663  
Detentling servomotor Patent  
[NASA-CASE-XNP-06936] c 15 N71-24695  
Circuit breaker utilizing magnetic latching relays Patent  
[NASA-CASE-MSC-11277] c 09 N71-29008  
Multiple circuit protector device  
[NASA-CASE-XMS-02744] c 33 N75-27249  
Solar concentrator protective system  
[NASA-CASE-NPO-15662-1] c 44 N84-28204

**CIRCUIT DIAGRAMS**

Excitation and detection circuitry for a flux responsive magnetic head  
[NASA-CASE-XNP-04183] c 09 N69-24329  
Signal multiplexer  
[NASA-CASE-XGS-01110] c 07 N69-24334  
Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463  
Solid state switch  
[NASA-CASE-XNP-09228] c 09 N69-27500  
Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34819  
Frequency shift keyed demodulator Patent  
[NASA-CASE-XGS-02889] c 07 N71-11282  
Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537  
High voltage transistor circuit Patent  
[NASA-CASE-XNP-06937] c 09 N71-19516  
Weld control system using thermocouple wire Patent  
[NASA-CASE-MFS-06074] c 15 N71-20393  
Correlation function apparatus Patent  
[NASA-CASE-XNP-00746] c 07 N71-21476  
Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796  
Buck boost voltage regulation circuit Patent  
[NASA-CASE-GSC-10735-1] c 10 N71-26085  
Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256  
Microcircuit negative cutter  
[NASA-CASE-XLA-09843] c 15 N72-27485  
Self-regulating proportionally controlled heating apparatus and technique  
[NASA-CASE-GSC-11752-1] c 77 N75-20140  
Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c 33 N75-31330  
Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c 33 N76-21390  
Frequency discriminator and phase detector circuit  
[NASA-CASE-NPO-11515-1] c 33 N77-13315

**CIRCUIT PROTECTION**

Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146  
Protective circuit of the spark gap type  
[NASA-CASE-XAC-08981] c 09 N69-39897  
Electrical load protection device Patent  
[NASA-CASE-MSC-12135-1] c 09 N71-12526  
Apparatus for overcurrent protection of a push-pull amplifier Patent  
[NASA-CASE-MSC-12033-1] c 09 N71-13531  
Method of coating circuit paths on printed circuit boards with solder Patent  
[NASA-CASE-XMF-01599] c 09 N71-20705  
Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543  
Selective plating of etched circuits without removing previous plating Patent  
[NASA-CASE-XGS-03120] c 15 N71-24047  
Failure sensing and protection circuit for converter networks Patent  
[NASA-CASE-GSC-10114-1] c 10 N71-27366  
Power responsive overload sensing circuit Patent  
[NASA-CASE-GSC-10667-1] c 10 N71-33129  
Saturation current protection apparatus for saturable core transformers  
[NASA-CASE-ERC-10075-2] c 09 N72-22196  
Electrical insulating layer process  
[NASA-CASE-LEW-10489-1] c 15 N72-25447  
Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c 33 N74-14956  
Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c 33 N74-17929  
Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c 37 N75-18573  
Multiple circuit protector device  
[NASA-CASE-XMS-02744] c 33 N75-27249  
Multi-cell battery protection system  
[NASA-CASE-LEW-12039-1] c 44 N78-14625  
Fused switch  
[NASA-CASE-XMS-01244-1] c 33 N79-33393  
Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220  
Shielded conductor cable system  
[NASA-CASE-MSC-12745-1] c 33 N81-27397  
Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404

**CIRCUIT RELIABILITY**

Split-cross-bridge resistor for testing for proper fabrication of integrated circuits  
[NASA-CASE-NPO-16021-1] c 33 N85-30187  
Cross-contact chain  
[NASA-CASE-NPO-16784-1] c 33 N87-10231

**CIRCUITS**

Connector - Electrical  
[NASA-CASE-XLA-01288] c 09 N69-21470  
Binary magnetic memory device Patent  
[NASA-CASE-XGS-00174] c 08 N70-34743  
Electronic motor control system Patent  
[NASA-CASE-XMF-01129] c 09 N70-38712  
Starting circuit for vapor lamps and the like Patent  
[NASA-CASE-XNP-01058] c 09 N71-12540  
Drift compensation circuit for analog to digital converter Patent  
[NASA-CASE-XNP-04780] c 08 N71-19687  
High voltage divider system Patent  
[NASA-CASE-XLE-02008] c 09 N71-21583  
Solar cell and circuit array and process for nullifying magnetic fields Patent  
[NASA-CASE-XGS-03390] c 03 N71-23187  
Dual polarity full wave dc motor drive Patent  
[NASA-CASE-XNP-07477] c 09 N71-26092  
Temperature regulation circuit Patent  
[NASA-CASE-XNP-02792] c 14 N71-28958  
Pulse generating circuit employing switch means on ends of delay line for alternately charging and discharging same Patent  
[NASA-CASE-XNP-00745] c 10 N71-28960  
Digital pulse width selection circuit Patent  
[NASA-CASE-XLA-07788] c 09 N71-29139  
Power responsive overload sensing circuit Patent  
[NASA-CASE-GSC-10667-1] c 10 N71-33129  
Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200  
Thermal to electrical power conversion system with solid-state switches with Seebeck effect compensation  
[NASA-CASE-NPO-11388] c 03 N72-23048  
Controllable load insensitive power converters  
[NASA-CASE-ERC-10268] c 09 N72-25252  
Failsafe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c 09 N72-25262  
Microcircuit negative cutter  
[NASA-CASE-XLA-09843] c 15 N72-27485  
Infinite range electronics gain control circuit  
[NASA-CASE-GSC-10786-1] c 10 N72-28241

**Active tuned circuit**

[NASA-CASE-GSC-11340-1] c 10 N72-33230  
Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-1] c 14 N73-14428  
Driving lamps by induction  
[NASA-CASE-MFS-21214-1] c 09 N73-30181  
Circuit for detecting initial systole and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c 54 N75-13531  
Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c 33 N75-18479  
High voltage distributor  
[NASA-CASE-GSC-11849-1] c 33 N76-16332  
Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257  
Method and apparatus for fabricating improved solar cell modules  
[NASA-CASE-NPO-14416-1] c 44 N81-14389  
Control system for an induction motor with energy recovery  
[NASA-CASE-MFS-25477-1] c 33 N84-14424  
Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452  
Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247  
Dielectric based submillimeter backward wave oscillator circuit  
[NASA-CASE-LEW-13736-1] c 33 N84-27974  
High voltage power supply  
[NASA-CASE-GSC-12818-1] c 33 N85-29147  
Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333  
Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670  
Processing circuit with asymmetry corrector and convolutional encoder for digital data  
[NASA-CASE-MSC-20187-1] c 33 N87-25531  
Arcjet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939  
Power supply conditioning circuit  
[NASA-CASE-NPO-17233-1-CU] c 33 N88-29095

**CIRCULAR CONES**

Optical inspection apparatus Patent  
[NASA-CASE-XMF-00462] c 14 N70-34298

**CIRCULAR CYLINDERS**

Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479

**CIRCULAR POLARIZATION**

Electromagnetic polarization systems and methods Patent  
[NASA-CASE-GSC-10021-1] c 09 N71-24595  
Virtual wall slot circularly polarized planar array antenna  
[NASA-CASE-NPO-10301] c 07 N72-11148  
Circularly polarized antenna  
[NASA-CASE-ERC-10214] c 09 N72-31235

**CIRCULAR TUBES**

Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c 31 N74-14133  
Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

**CIRCULATION CONTROL AIRFOILS**

Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400

**CIRCULATORS (PHASE SHIFT CIRCUITS)**

Circulator having quarter wavelength resonant post and parametric amplifier circuits utilizing the same Patent  
[NASA-CASE-XNP-02140] c 09 N71-23097  
Dielectric-loaded waveguide circulator for cryogenically cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372

**CIRCUMFERENCES**

Circumferential pressure probe  
[NASA-CASE-LAR-13775-1] c 35 N89-14408

**CLADDING**

Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613

**CLAMPING CIRCUITS**

Amplifier clamping circuit for horizon scanner Patent  
[NASA-CASE-XGS-01784] c 10 N71-20782

**CLAMPS**

Portable alignment tool Patent  
[NASA-CASE-XMF-01452] c 15 N70-41371  
Hydraulic grip Patent  
[NASA-CASE-XLA-05100] c 15 N71-17696  
Clamping assembly for inertial components Patent  
[NASA-CASE-XMS-02184] c 15 N71-20813  
Central spar and module joint Patent  
[NASA-CASE-XNP-02341] c 15 N71-21531

## CLAYS

- Quick attach mechanism Patent  
[NASA-CASE-XFR-05421] c 15 N71-22994
- Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744
- Clamp-mount device  
[NASA-CASE-MFS-25510-1] c 37 N84-16560
- Reusable thermal cycling clamp  
[NASA-CASE-LAR-12868-1] c 37 N85-21651
- Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843

## CLAYS

- Inorganic thermal control pigment Patent  
[NASA-CASE-XNP-02139] c 18 N71-24184

## CLEAN ROOMS

- Air conditioned suit  
[NASA-CASE-LAR-10076-1] c 05 N73-20137

## CLEANERS

- Purge device for thrust engines Patent  
[NASA-CASE-XMS-04826] c 28 N71-28849
- Noncontaminating swabs  
[NASA-CASE-MFS-18100] c 15 N72-11390
- Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

## CLEANING

- Disk pack cleaning table Patent Application  
[NASA-CASE-LAR-10590-1] c 15 N70-26819
- System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724
- Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652
- Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

## CLEAR AIR TURBULENCE

- Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437
- Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c 36 N75-15028
- CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040

## CLEARANCES

- Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366
- Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603

## CLEAVAGE

- Crystal cleaving machine  
[NASA-CASE-GSC-12584-1] c 37 N82-32730
- Workpiece positioning vise  
[NASA-CASE-GSC-12762-1] c 37 N84-28083

## CLIMBING FLIGHT

- Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157

## CLINICAL MEDICINE

- Process for the preparation of brushite crystals  
[NASA-CASE-ERC-10338] c 04 N72-33072
- Measurement of gas production of microorganisms --- using pressure sensors  
[NASA-CASE-LAR-11326-1] c 35 N75-33368
- Production of I-123  
[NASA-CASE-LEW-11390-3] c 25 N76-29379
- Automated clinical system for chromosome analysis  
[NASA-CASE-NPO-13913-1] c 52 N79-12694
- Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783
- Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389

## CLIPS

- Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388
- Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389

## CLOCKS

- Time synchronization system utilizing moon reflected coded signals Patent  
[NASA-CASE-NPO-10143] c 10 N71-26326
- Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137
- Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c 35 N75-30504
- Clock setter  
[NASA-CASE-LAR-11458-1] c 35 N76-16392

## CLOSED CIRCUIT TELEVISION

- Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c 18 N76-14186

## CLOSED CYCLES

- Closed loop ranging system Patent  
[NASA-CASE-XNP-01501] c 21 N70-41930

- Digital phase-locked loop  
[NASA-CASE-GSC-11623-1] c 33 N75-25040
- Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664

## CLOSED ECOLOGICAL SYSTEMS

- Recovery of potable water from human wastes in below-G conditions Patent  
[NASA-CASE-XLA-03213] c 05 N71-11207
- Space vehicle with artificial gravity and earth-like environment  
[NASA-CASE-LEW-11101-1] c 31 N73-32750
- Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment  
[NASA-CASE-MSC-14771-1] c 54 N77-32722
- Cell and method for electrolysis of water and anode  
[NASA-CASE-MSC-16394-1] c 28 N81-24280

## CLOSTRIDIUM

- Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

## CLOSURES

- Canister closing device Patent  
[NASA-CASE-XLA-01446] c 15 N71-21528
- Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736

## CLOUD CHAMBERS

- Heat transfer device  
[NASA-CASE-MFS-22938-1] c 34 N76-18374

## CLOUD COVER

- Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232

## CLOUDS (METEOROLOGY)

- Rocket borne instrument to measure electric fields inside electrified clouds  
[NASA-CASE-KSC-10730-1] c 14 N73-32318
- Electric field measuring and display system --- for cloud formations  
[NASA-CASE-KSC-10731-1] c 33 N74-27862

## CLUTCHES

- Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084
- Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037
- Rotary stepping device with memory metal actuator  
[NASA-CASE-NPO-15482-1] c 37 N87-23970

## CLUTTER

- Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968
- Method and apparatus for measuring distance  
[NASA-CASE-MSC-20912-1] c 32 N88-26568

## CMOS

- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321

## COAL

- Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443
- Thickness measurement system  
[NASA-CASE-MFS-23721-1] c 31 N79-28370
- Coal-rock interface detector  
[NASA-CASE-MFS-23725-1] c 43 N79-31706
- Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423
- Coal-shale interface detector  
[NASA-CASE-MFS-23720-1] c 43 N80-23711
- Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246
- Coal desulfurization by aqueous chlorination  
[NASA-CASE-NPO-14902-1] c 25 N82-29371
- Hydrodesulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743
- Supercritical multicomponent solvent coal extraction  
[NASA-CASE-NPO-15767-1] c 23 N84-16255
- Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709
- Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768
- Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722
- Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253

## COAL GASIFICATION

- Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475
- Pressure letdown method and device for coal conversion systems  
[NASA-CASE-NPO-15100-1] c 44 N84-14583
- Micronized coal burner facility  
[NASA-CASE-LEW-13426-1] c 25 N84-16276
- Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744

## COAL LIQUEFACTION

- Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152

## COAL UTILIZATION

- Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527
- Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154
- Fluidized bed coal combustion reactor  
[NASA-CASE-NPO-14273-1] c 25 N82-11144

## COATING

- Method of coating circuit paths on printed circuit boards with solder Patent  
[NASA-CASE-XMF-01599] c 09 N71-20705
- Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875
- Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436
- Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599
- Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233
- Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854
- Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940
- Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005
- Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

## COATINGS

- Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400
- High contrast cathode ray tube  
[NASA-CASE-ERC-10468] c 09 N72-20206
- Durable antistatic coating for polymethylmethacrylate  
[NASA-CASE-NPO-13867-1] c 27 N78-14164
- Edge coating of flat wires  
[NASA-CASE-XMF-05757-1] c 31 N79-21227
- Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176
- Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695
- Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267
- Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551

## COAXIAL CABLES

- Transmission line thermal short Patent  
[NASA-CASE-XNP-09775] c 09 N71-20445
- Coaxial cable connector Patent  
[NASA-CASE-XNP-04732] c 09 N71-20851
- Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597
- Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191
- Vibration isolation system using compression springs  
[NASA-CASE-NPO-11012] c 15 N72-11391
- Hermetically sealed semiconductor  
[NASA-CASE-GSC-10791-1] c 15 N73-14469
- System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c 33 N74-17927
- Refrigerated coaxial coupling --- for microwave equipment  
[NASA-CASE-NPO-13504-1] c 33 N75-30430
- High power RF coaxial switch  
[NASA-CASE-NPO-14229-1] c 33 N80-18285
- Coaxial tube tether/transmission line for manned nuclear space power  
[NASA-CASE-LEW-14338-1] c 20 N87-10174
- Coaxial cable connector  
[NASA-CASE-NPO-16764-1-CU] c 33 N88-14270

## COAXIAL PLASMA ACCELERATORS

- Self-energized plasma compressor  
[NASA-CASE-MFS-22145-2] c 75 N76-17951

## COBALT

- Process for improving mechanical properties of epoxy resins by addition of cobalt ions  
[NASA-CASE-LAR-13230-1] c 24 N84-34571
- Metal (2,4,4',4'') phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281

## COBALT ALLOYS

- High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-00726] c 17 N71-15644
- High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-02991] c 17 N71-16025
- High temperature ferromagnetic cobalt-base alloy Patent  
[NASA-CASE-XLE-03629] c 17 N71-23248

Cobalt-base alloy  
[NASA-CASE-LEW-10436-1] c 17 N73-32415

**COBALT OXIDES**  
High contrast cathode ray tube  
[NASA-CASE-ERC-10468] c 09 N72-20206

**COCKPIT SIMULATORS**  
Controlled visibility device for an aircraft Patent  
[NASA-CASE-XFR-04147] c 11 N71-10748

**COCKPITS**  
Aircraft canopy lock  
[NASA-CASE-FRC-11065-1] c 05 N83-19737

**CODERS**  
Encoder/decoder system for a rapidly synchronizable binary code Patent  
[NASA-CASE-NPO-10342] c 10 N71-33407  
Modular encoder  
[NASA-CASE-NPO-10629] c 08 N72-18184  
Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MS-C-14070-1] c 32 N74-32598  
Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c 62 N76-31946  
Twin-capacitive shaft angle encoder with analog output signal  
[NASA-CASE-ARC-10897-1] c 33 N77-31404

**CODING**  
Error correcting method and apparatus Patent  
[NASA-CASE-XNP-02748] c 08 N71-22749  
Rate data encoder  
[NASA-CASE-LAR-10128-1] c 08 N73-20217  
Binary concatenated coding system  
[NASA-CASE-MS-C-14082-1] c 60 N76-23850  
Differential pulse code modulation  
[NASA-CASE-MS-C-12506-1] c 32 N77-12239  
Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992  
A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220  
Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946

**COEFFICIENT OF FRICTION**  
Static coefficient test method and apparatus  
[NASA-CASE-GSC-11893-1] c 35 N76-31489  
Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382

**COENZYMES**  
Flavin coenzyme assay  
[NASA-CASE-GSC-10565-1] c 06 N72-25149

**COHERENT ELECTROMAGNETIC RADIATION**  
Folded traveling wave maser structure Patent  
[NASA-CASE-XNP-05219] c 16 N71-15550  
Focused image holography with extended sources Patent  
[NASA-CASE-ERC-10019] c 16 N71-15551  
Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065

**COHERENT LIGHT**  
Hybrid holographic system using reflected and transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c 16 N71-15565  
Amplitude modulated laser transmitter Patent  
[NASA-CASE-XMS-04269] c 16 N71-22895  
Device for measuring light scattering wherein the measuring beam is successively reflected between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c 14 N71-28994

**COHERENT RADIATION**  
Laser communication system for controlling several functions at a location remote to the laser  
[NASA-CASE-LAR-10311-1] c 16 N73-16536  
Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c 35 N74-11284  
Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c 36 N74-20009  
Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c 28 N74-27425  
Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c 36 N76-29575  
Coherently pulsed laser source  
[NASA-CASE-NPO-15111-1] c 36 N82-29589

**COINCIDENCE CIRCUITS**  
Frequency measurement by coincidence detection with standard frequency  
[NASA-CASE-MS-C-14649-1] c 33 N76-16331

**COLD CATHODES**  
Meteoroid detector  
[NASA-CASE-LAR-10483-1] c 14 N73-32327

**COLD GAS**  
Annular arc accelerator shock tube  
[NASA-CASE-NPO-13528-1] c 09 N77-10071

**COLD WELDING**  
Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455

**COLD WORKING**  
Hydroforming techniques using epoxy molds Patent  
[NASA-CASE-XLE-05641-1] c 15 N71-26346

**COLLAPSE**  
Collapsible pistons  
[NASA-CASE-MS-C-13789-1] c 11 N73-32152

**COLLECTION**  
Automatic liquid inventory collecting and dispensing unit  
[NASA-CASE-LAR-11071-1] c 35 N75-19611  
Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MS-C-18223-1] c 24 N82-29362  
Improved method and apparatus for waste collection and storage  
[NASA-CASE-MS-C-21025-1] c 31 N87-25495

**COLLIMATION**  
Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c 36 N74-21091  
Optical alignment device  
[NASA-CASE-ARC-10932-1] c 74 N76-22993  
Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c 36 N77-32478  
Dual acting slit control mechanism  
[NASA-CASE-LAR-11370-1] c 35 N80-28686  
Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443  
Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680  
Ion beam accelerator system  
[NASA-CASE-NPO-15547-1] c 72 N84-16959  
Sonic levitation apparatus  
[NASA-CASE-MFS-25828-1] c 71 N84-28568  
Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862  
Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253

**COLLIMATORS**  
X-ray reflection collimator adapted to focus X-radiation directly on a detector Patent  
[NASA-CASE-XHQ-04106] c 14 N70-40240  
Collimator of multiple plates with axially aligned identical random arrays of apertures  
[NASA-CASE-MFS-20546-2] c 14 N73-30389  
Multiplate focusing collimator --- for scanning small near radiation sources  
[NASA-CASE-MFS-20932-1] c 35 N75-19616  
Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443  
Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072  
Multiprism collimator  
[NASA-CASE-GSC-12608-1] c 74 N83-10900

**COLLISION AVOIDANCE**  
Cooperative Doppler radar system Patent  
[NASA-CASE-LAR-10403] c 21 N71-11766  
Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948  
Stacked array of omnidirectional antennas  
[NASA-CASE-LAR-10545-1] c 09 N72-21244  
Display research collision warning system  
[NASA-CASE-HQN-10703] c 21 N73-13643  
Apparatus for aiding a pilot in avoiding a midair collision between aircraft  
[NASA-CASE-LAR-10717-1] c 21 N73-30641  
Satellite aided vehicle avoidance system  
[NASA-CASE-ERC-10419-1] c 03 N75-30132

**COLLISIONS**  
Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359

**COLLOIDAL GENERATORS**  
Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c 28 N70-33265

**COLLOIDAL PROPELLANTS**  
Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c 28 N70-33265  
Low viscosity magnetic fluid obtained by the colloidal suspension of magnetic particles Patent  
[NASA-CASE-XLE-01512] c 12 N70-40124  
Annular slit colloid thruster Patent  
[NASA-CASE-GSC-10709-1] c 28 N71-25213

**COLLOIDS**  
The 2 deg/90 deg laboratory scattering photometer --- particulate refractivity in hydrosols  
[NASA-CASE-GSC-12088-1] c 74 N78-13874

**COLOR**  
Nondestructive spot test method for magnesium and magnesium alloys  
[NASA-CASE-LAR-10953-1] c 17 N73-27446  
Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059  
Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551

**COLOR PHOTOGRAPHY**  
Method of recording a gas flow pattern Patent  
[NASA-CASE-XMF-01779] c 12 N71-20815  
Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432

**COLOR TELEVISION**  
Color television systems using a single gun color cathode ray tube Patent  
[NASA-CASE-ERC-10098] c 09 N71-28618  
Color television system  
[NASA-CASE-MS-C-12146-1] c 07 N72-17109  
Scan converting video tape recorder  
[NASA-CASE-NPO-10166-1] c 07 N73-22076  
Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c 35 N76-16391  
System for producing chroma signals  
[NASA-CASE-MS-C-14683-1] c 74 N77-18893  
Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083

**COLOR VISION**  
Color perception tester  
[NASA-CASE-KSC-10278] c 05 N72-16015

**COLUMNS**  
Lightweight structural columns --- space erectable trusses  
[NASA-CASE-LAR-12095-1] c 31 N81-25258

**COLUMNS (PROCESS ENGINEERING)**  
Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936

**COLUMNS (SUPPORTS)**  
Telescoping columns --- parabolic antenna support  
[NASA-CASE-LAR-12195-1] c 31 N81-27324

**COMBINATORIAL ANALYSIS**  
Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437

**COMBUSTION**  
Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484  
A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447

**COMBUSTION CHAMBERS**  
Rocket chamber leak test fixture  
[NASA-CASE-XFR-09479] c 14 N69-27503  
Rocket propellant injector Patent  
[NASA-CASE-XLE-00103] c 28 N70-33241  
Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411  
Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535  
Ignition system for monopropellant combustion devices Patent  
[NASA-CASE-XNP-00249] c 28 N70-38249  
Method of making a regeneratively cooled combustion chamber Patent  
[NASA-CASE-XLE-00150] c 28 N70-41818  
Control of transverse instability in rocket combustors Patent  
[NASA-CASE-XLE-04603] c 33 N71-21507  
Combustion chamber Patent  
[NASA-CASE-XLE-04857] c 28 N71-23968  
Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736  
Coaxial injector for reaction motors  
[NASA-CASE-NPO-11095] c 15 N72-25455  
Swirl can primary combustor  
[NASA-CASE-LEW-11326-1] c 23 N73-30665  
Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c 20 N74-32919  
Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LEW-11593-1] c 20 N76-14190  
Fuel combustor  
[NASA-CASE-LEW-12137-1] c 25 N78-10224  
Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c 34 N78-27357  
Combustor --- low nitrogen oxide formation  
[NASA-CASE-NPO-13958-1] c 25 N79-11151  
Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c 34 N79-13288  
General purpose rocket furnace  
[NASA-CASE-MFS-23460-1] c 12 N79-26075

- Reduction of nitric oxide emissions from a combustor  
[NASA-CASE-ARC-10814-2] c 07 N80-26298
- Fluidized bed coal combustion reactor  
[NASA-CASE-NPO-14273-1] c 25 N82-11144
- Steam cooled rich-burn combustor liner  
[NASA-CASE-LEW-13609-1] c 25 N83-17628
- Micronized coal burner facility  
[NASA-CASE-LEW-13426-1] c 25 N84-16276
- Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958
- Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577
- A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447
- Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808
- Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195
- Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420
- COMBUSTION CONTROL**  
Burning rate control of solid propellants Patent  
[NASA-CASE-XLE-03494] c 27 N71-21819
- COMBUSTION EFFICIENCY**  
Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c 28 N70-38199
- Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-13590-1] c 37 N84-22958
- COMBUSTION PHYSICS**  
Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c 28 N73-24784
- Plasma igniter for internal combustion engine  
[NASA-CASE-NPO-13828-1] c 37 N79-11405
- COMBUSTION PRODUCTS**  
Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922
- Combustion products generating and metering device  
[NASA-CASE-GSC-11095-1] c 14 N72-10375
- System for minimizing internal combustion engine pollution emission  
[NASA-CASE-NPO-13402-1] c 37 N76-18457
- Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527
- Combustor --- low nitrogen oxide formation  
[NASA-CASE-NPO-13958-1] c 25 N79-11151
- A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447
- COMBUSTION STABILITY**  
Control of transverse instability in rocket combustors Patent  
[NASA-CASE-XLE-04603] c 33 N71-21507
- Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420
- COMET TAILS**  
Ion mass spectrometer  
[NASA-CASE-NPO-15423-1] c 35 N84-28016
- COMFORT**  
Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445
- COMMAND AND CONTROL**  
Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20289
- Common data buffer system --- communication with computational equipment utilized in spacecraft operations  
[NASA-CASE-KSC-11048-1] c 62 N81-24779
- COMMAND MODULES**  
Low onset rate energy absorber  
[NASA-CASE-MS-12279] c 15 N72-17450
- COMMUNICATING**  
Communications link for computers  
[NASA-CASE-NPO-11161] c 08 N72-25207
- COMMUNICATION**  
Correlation function apparatus Patent  
[NASA-CASE-XNP-00746] c 07 N71-21476
- System for improving signal-to-noise ratio of a communication signal  
[NASA-CASE-MS-12259-2] c 07 N72-33146
- COMMUNICATION CABLES**  
Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986
- Process for making RF shielded cable connector assemblies and the products formed thereby  
[NASA-CASE-GSC-11215-1] c 09 N73-28083
- Fiber distributed feedback laser  
[NASA-CASE-NPO-13531-1] c 36 N76-24553
- High-speed data link for moderate distances and noisy environments  
[NASA-CASE-NPO-14152-1] c 32 N80-18252
- High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272
- Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669
- COMMUNICATION EQUIPMENT**  
Elimination of frequency shift in a multiplex communication system Patent  
[NASA-CASE-XNP-01306] c 07 N71-20814
- Decoder system Patent  
[NASA-CASE-NPO-10118] c 07 N71-24741
- Data-aided carrier tracking loops  
[NASA-CASE-NPO-11282] c 10 N73-16205
- Doppler compensation by shifting transmitted object frequency within limits  
[NASA-CASE-GSC-10087-4] c 07 N73-20174
- Differential phase shift keyed communication system  
[NASA-CASE-MS-14065-1] c 32 N74-26654
- Doppler-corrected differential detection system  
[NASA-CASE-NPO-16987-1-CU] c 32 N88-30001
- COMMUNICATION SATELLITES**  
Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309
- Apparatus providing a directive field pattern and attitude sensing of a spin stabilized satellite Patent  
[NASA-CASE-XGS-02607] c 31 N71-23009
- Deep space monitor communication satellite system Patent  
[NASA-CASE-XAC-06029-1] c 31 N71-24813
- Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900
- Satellite aided vehicle avoidance system  
[NASA-CASE-ERC-10419-1] c 03 N75-30132
- Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323
- COMMUTATION**  
High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c 09 N70-39915
- Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393
- COMMUTATORS**  
Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432
- Current steering commutator  
[NASA-CASE-NPO-10743] c 08 N72-21199
- COMPARATOR CIRCUITS**  
Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692
- Pulsed differential comparator circuit Patent  
[NASA-CASE-XLE-03804] c 10 N71-19471
- Multi-cell battery protection system  
[NASA-CASE-LEW-12039-1] c 44 N78-14625
- Window comparator  
[NASA-CASE-FRC-10090-1] c 33 N78-18308
- COMPARATORS**  
Fluid flow meter with comparator reference means Patent  
[NASA-CASE-XGS-01331] c 14 N71-22996
- Comparator for the comparison of two binary numbers Patent  
[NASA-CASE-XNP-04819] c 08 N71-23295
- High stability buffered phase comparator  
[NASA-CASE-GSC-12645-1] c 33 N84-16454
- Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1CU] c 60 N86-24224
- Comparator with noise suppression  
[NASA-CASE-LAR-13151-1] c 33 N87-21235
- COMPENSATORS**  
Star image motion compensator  
[NASA-CASE-LAR-10523-1] c 14 N72-22444
- Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029
- Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082
- Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138
- COMPLEX COMPOUNDS**  
Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174
- COMPONENT RELIABILITY**  
Acoustic guide for noise-transmission testing of aircraft  
[NASA-CASE-LAR-13111-1-CU] c 71 N87-21652
- COMPOSITE MATERIALS**  
Reinforced metallic composites Patent  
[NASA-CASE-XLE-02428] c 17 N70-33288
- Method of making fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-00231] c 17 N70-38198
- Reinforced metallic composites Patent  
[NASA-CASE-XLE-00228] c 17 N70-38490
- Unfired-ceramic flame-resistant insulation and method of making the same Patent  
[NASA-CASE-XMF-01030] c 18 N70-41583
- Process of casting heavy slips Patent  
[NASA-CASE-XLE-00106] c 15 N71-16076
- Lightweight refractory insulation and method of preparing the same Patent  
[NASA-CASE-XMF-05279] c 18 N71-16124
- Flexible composite membrane Patent  
[NASA-CASE-XNP-08837] c 18 N71-16210
- Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-XMF-02964] c 14 N71-17659
- Method for producing fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-03925] c 18 N71-22894
- Solar cell matrix  
[NASA-CASE-NPO-11190] c 03 N71-34044
- Method of forming shapes from planar sheets of thermosetting materials  
[NASA-CASE-NPO-11036] c 15 N72-24522
- Method of making fiber composites  
[NASA-CASE-LEW-10424-2-2] c 18 N72-25539
- Thermal compensating structural member  
[NASA-CASE-MFS-20433] c 15 N72-28496
- Bearing material --- composite material with low friction surface for rolling or sliding contact  
[NASA-CASE-LEW-11930-1] c 24 N76-22309
- Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c 37 N76-22541
- Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MS-14331-1] c 27 N76-24405
- Method of growing composites of the type exhibiting the Soret effect --- improved structure of eutectic alloy crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187
- Hybrid composite laminate structures  
[NASA-CASE-LEW-12118-1] c 24 N77-27188
- Honeycomb-laminate composite structure  
[NASA-CASE-ARC-10913-1] c 24 N78-15180
- High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302
- Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275
- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-1] c 28 N78-24365
- Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916
- Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318
- Crystalline polyimides --- reinforcing fibers for high temperature composites and adhesives as well as flame retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158
- Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388
- Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482
- Tackifier for addition polyimides containing monoethylphthalate  
[NASA-CASE-LAR-12642-1] c 27 N81-29229
- Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900
- Piezoelectric composite materials  
[NASA-CASE-LEW-12582-1] c 76 N83-34796
- Pre-stressed thermal protection systems  
[NASA-CASE-MS-20254-1] c 16 N84-22601
- Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695
- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-3] c 27 N85-21350
- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-4] c 27 N85-21351
- Process for improving moisture resistance of epoxy resins by addition of chromium ions  
[NASA-CASE-LAR-13226-1] c 27 N85-34282
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380
- Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585
- Fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-2] c 27 N87-27810
- Cryogenic regenerator including saran-carbon heat conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946

Graphite fluoride fiber polymer composite material  
[NASA-CASE-LEW-14472-1] c 24 N89-14259

**COMPOSITE PROPELLANTS**  
Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c 27 N71-14090  
Silicone containing solid propellant  
[NASA-CASE-NPO-14477-1] c 28 N80-28536  
Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119

**COMPOSITE STRUCTURES**  
Inflatable honeycomb Patent  
[NASA-CASE-XLA-00204] c 32 N70-36536  
Composite powerplant and shroud therefor Patent  
[NASA-CASE-XLA-01043] c 28 N71-10780  
Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260  
Leading edge protection for composite blades  
[NASA-CASE-LEW-12550-1] c 24 N77-19170  
Composite sandwich lattice structure  
[NASA-CASE-LAR-11898-1] c 24 N78-10214  
Method of making a composite sandwich lattice structure  
[NASA-CASE-LAR-11898-2] c 24 N78-17149  
Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184  
Aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-3] c 44 N80-16452  
Lightweight structural columns --- space erectable trusses  
[NASA-CASE-LAR-12095-1] c 31 N81-25258  
Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630  
Light weight fire resistant graphite composites  
[US-PATENT-4,598,007] c 24 N86-28131  
Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613  
Ceramic honeycomb structures and the method thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737  
Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981  
Method of inseting predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258

**COMPOSITION (PROPERTY)**  
Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c 35 N76-16393

**COMPRESSED AIR**  
Valve actuator Patent  
[NASA-CASE-XHQ-01208] c 15 N70-35409

**COMPRESSIBILITY**  
Nozzle extraction process and handlemeter for measuring handle  
[NASA-CASE-LAR-12147-1] c 31 N79-11246  
Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29789

**COMPRESSIBLE FLUIDS**  
Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c 14 N70-36618  
Apparatus for tensile testing Patent  
[NASA-CASE-XKS-06250] c 14 N71-15600

**COMPRESSING**  
Refrigeration apparatus Patent  
[NASA-CASE-XNP-08877] c 15 N71-23025  
Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c 31 N74-18124  
Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

**COMPRESSION LOADS**  
Pressure transducer  
[NASA-CASE-NPO-10832] c 14 N72-21405  
Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c 44 N74-33379  
Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382  
Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081  
Deployable M-braced truss structure  
[NASA-CASE-LAR-13081-1] c 37 N86-32737

**COMPRESSION RATIO**  
Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483

**COMPRESSION TESTS**  
Compression test assembly  
[NASA-CASE-LAR-10440-1] c 14 N73-32323  
Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c 09 N74-19528  
Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312  
Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967

**COMPRESSIVE STRENGTH**  
Truss-core corrugation for compressive loads  
[NASA-CASE-LAR-13438-1] c 31 N89-12786

**COMPRESSOR BLADES**  
Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515  
Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603

**COMPRESSOR ROTORS**  
Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366

**COMPRESSORS**  
Thermal pump-compressor for space use Patent  
[NASA-CASE-XLA-00377] c 33 N71-17610  
Self-energized plasma compressor  
[NASA-CASE-MFS-22145-2] c 75 N76-17951  
Gas compression apparatus  
[NASA-CASE-MSC-14757-1] c 35 N78-10428  
Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658  
Cycling Joule Thomson refrigerator  
[NASA-CASE-NPO-15251-1] c 31 N83-31897  
Magnetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404  
Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223

**COMPUTATION**  
Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437  
Ruler for making navigational computations  
[NASA-CASE-XNP-01458] c 04 N78-17031

**COMPUTER COMPONENTS**  
Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897  
Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1] c 60 N78-17691  
Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839  
Control means for a solid state crossbar switch  
[NASA-CASE-NPO-15066-1] c 33 N82-29538  
Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1CU] c 60 N86-24224  
Real time pipelined system for forming the sum of products in the processing of video data  
[NASA-CASE-NPO-16462-1-CU] c 60 N88-24169

**COMPUTER DESIGN**  
Two-dimensional radiant energy array computers and computing devices  
[NASA-CASE-GSC-11839-1] c 60 N77-14751  
Massively parallel processor computer  
[NASA-CASE-GSC-12223-1] c 60 N83-25378  
Distributed multiport memory architecture  
[NASA-CASE-NPO-15342-1] c 60 N83-32342  
Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992

**COMPUTER GRAPHICS**  
System for quantizing graphic displays  
[NASA-CASE-NPO-10745] c 08 N72-22164  
Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621

**COMPUTER NETWORKS**  
High-speed data link for moderate distances and noisy environments  
[NASA-CASE-NPO-14152-1] c 32 N80-18252  
Common data buffer system --- communication with computational equipment utilized in spacecraft operations  
[NASA-CASE-KSC-11048-1] c 62 N81-24779  
Multicomputer communication system  
[NASA-CASE-NPO-15433-1] c 32 N85-21428

**COMPUTER PROGRAMMING**  
Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917  
Priority interrupt system --- comprised of four registers  
[NASA-CASE-NPO-13067-1] c 60 N76-18800

**COMPUTER PROGRAMS**  
Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633  
Program for computer aided reliability estimation  
[NASA-CASE-NPO-13086-1] c 15 N73-12495  
Numerical computer peripheral interactive device with manual controls  
[NASA-CASE-NPO-11497] c 08 N73-25206

Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021

**COMPUTER STORAGE DEVICES**  
Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504  
Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505  
Pulse-type magnetic core memory element circuit with blocking oscillator feedback Patent  
[NASA-CASE-XGS-03303] c 08 N71-18595  
Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c 10 N71-23033  
Programmable telemetry system Patent  
[NASA-CASE-GSC-10131-1] c 07 N71-24624  
Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650  
Digital memory in which the driving of each word location is controlled by a switch core Patent  
[NASA-CASE-XNP-01466] c 10 N71-26434  
Redundant memory organization Patent  
[NASA-CASE-GSC-10564] c 10 N71-29135  
Semiconductor-ferroelectric memory device  
[NASA-CASE-ERC-10307] c 08 N72-21198  
Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c 60 N76-21914  
Distributed multiport memory architecture  
[NASA-CASE-NPO-15342-1] c 60 N83-32342  
Method of and apparatus for generating an interstitial point in a data stream having an even number of data points  
[NASA-CASE-MFS-25319-1] c 60 N85-33701

**COMPUTER SYSTEMS DESIGN**  
Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c 62 N74-14920  
Computer interface system  
[NASA-CASE-NPO-13428-1] c 60 N77-12721  
Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021

**COMPUTER TECHNIQUES**  
Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245  
Apparatus for determining thermophysical properties of test specimens  
[NASA-CASE-LAR-11883-1] c 09 N77-27131  
Computerized system for translating a torch head  
[NASA-CASE-MFS-23620-1] c 37 N79-10421  
Automatic flowmeter calibration system  
[NASA-CASE-KSC-11076-1] c 34 N81-26402  
Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333  
Auto covariance computer  
[NASA-CASE-LAR-12968-1] c 60 N86-21154  
Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764

**COMPUTER VISION**  
Optically controlled welding system  
[NASA-CASE-MFS-29291-1] c 37 N89-12868

**COMPUTERIZED SIMULATION**  
Integrated time shared instrumentation display Patent  
[NASA-CASE-XLA-01952] c 08 N71-12507  
Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411  
Simulator method and apparatus for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MFS-23052-2] c 74 N79-13855  
Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333

**COMPUTERS**  
Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333  
Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288  
Communications link for computers  
[NASA-CASE-NPO-11161] c 08 N72-25207  
Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MSC-20258-1] c 60 N84-28492  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629  
Auto covariance computer  
[NASA-CASE-LAR-12966-1] c 60 N86-21154

**CONCAVITY**  
Concave grating spectrometer Patent  
[NASA-CASE-XGS-01036] c 14 N70-40003

**CONCENTRATORS**  
Device for directionally controlling electromagnetic radiation Patent  
[NASA-CASE-XLE-01716] c 09 N70-40234



Thermostatically controlled non-tracking type solar energy concentrator  
[NASA-CASE-NPO-13497-1] c 44 N76-14602

Three-dimensional tracking solar energy concentrator and method for making same  
[NASA-CASE-NPO-13736-1] c 44 N77-32583

Non-tracking solar energy collector system  
[NASA-CASE-NPO-13817-1] c 44 N79-11471

Solar cell module  
[NASA-CASE-NPO-14467-1] c 44 N79-31753

Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473

Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518

Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1CU] c 35 N86-29174

**CONCENTRIC CYLINDERS**  
Flow resistivity instrument  
[NASA-CASE-LAR-13053-1] c 43 N83-29783

**CONCENTRIC SPHERES**  
Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319

Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
[NASA-CASE-NPO-14596-3] c 31 N83-31896

**CONDENSATES**  
Apparatus for testing polymeric materials Patent  
[NASA-CASE-XNP-09699] c 06 N71-24607

Condensate removal device for heat exchanger  
[NASA-CASE-MSC-14143-1] c 77 N75-20139

Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846

**CONDENSERS (LIQUEFIERS)**  
Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465

Condensate removal device for heat exchanger  
[NASA-CASE-MSC-14143-1] c 77 N75-20139

**CONDENSING**  
Preparation of heterocyclic block copolymer omega-diamidoximes  
[NASA-CASE-ARC-11060-1] c 27 N79-22300

**CONDUCTING FLUIDS**  
Multiducted electromagnetic pump Patent  
[NASA-CASE-NPO-10755] c 15 N71-27084

Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-19686

**CONDUCTIVE HEAT TRANSFER**  
Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
[NASA-CASE-XLE-00266] c 14 N70-34156

Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439

Compact pulsed laser having improved heat conductance  
[NASA-CASE-NPO-13147-1] c 36 N77-25502

Automatic thermal switch  
[NASA-CASE-GSC-12415-1] c 33 N82-24419

**CONDUCTORS**  
Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701

Method for making conductors for ferrite memory arrays --- from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c 24 N75-13032

**CONES**  
Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475

**CONFIGURATION MANAGEMENT**  
Reconfigurable work station for a video display unit and keyboard  
[NASA-CASE-MFS-26009-1-SB] c 54 N88-24163

**CONFINEMENT**  
Observation window for a gas confining chamber  
[NASA-CASE-NPO-10890] c 11 N73-12265

**CONICAL BODIES**  
Conical valve plug Patent  
[NASA-CASE-XLE-00715] c 15 N70-34859

Conical reflector antenna  
[NASA-CASE-NPO-10303] c 07 N72-22127

Multiple reflection conical microwave antenna  
[NASA-CASE-NPO-11661] c 07 N73-14130

Almond test body --- for microwave anechoic chambers  
[NASA-CASE-LAR-13747-1] c 32 N88-24845

**CONICAL SCANNING**  
Conical scan tracking system employing a large antenna  
[NASA-CASE-NPO-14009-1] c 32 N79-13214

**CONICAL SHELLS**  
Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785

Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c 03 N70-41580

Apparatus for machining geometric cones Patent  
[NASA-CASE-XMS-04292] c 15 N71-22722

**CONJUGATES**  
Phase conjugation method and apparatus for an active retrodirective antenna array  
[NASA-CASE-NPO-13641-1] c 32 N79-24210

**CONNECTORS**  
Connector strips-positive, negative and T tabs  
[NASA-CASE-XGS-01395] c 03 N69-21539

Quick release connector Patent  
[NASA-CASE-XLA-01141] c 15 N71-13789

Flared tube strainer  
[NASA-CASE-XLA-05056] c 15 N72-11389

Process for making RF shielded cable connector assemblies and the products formed thereby  
[NASA-CASE-GSC-11215-1] c 09 N73-28083

Low heat leak connector for cryogenic system  
[NASA-CASE-XLE-02367-1] c 31 N79-21225

Clamp-mount device  
[NASA-CASE-MFS-25510-1] c 37 N84-16560

Apparatus for releasably connecting first and second objects in predetermined space relationship  
[NASA-CASE-MSC-18969-1] c 18 N84-22605

Connection system --- insuring against loss of a tool component without using multiple tethers  
[NASA-CASE-MSC-20319-1] c 37 N85-21649

Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

Collet lock joint for space station truss  
[NASA-CASE-MSC-21207-1] c 37 N88-29180

**CONSCIOUSNESS**  
EEG sleep analyzer and method of operation Patent  
[NASA-CASE-MSC-13282-1] c 05 N71-24729

**CONSISTENCY**  
Constant-output atomizer --- Inhalation therapy and aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406

**CONSOLES**  
Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310

**CONSTANTS**  
Spring operated accelerator and constant force spring mechanism therefor  
[NASA-CASE-ARC-10898-1] c 35 N77-18417

**CONSTRAINTS**  
Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694

Cable restraint  
[NASA-CASE-LAR-10129-1] c 15 N73-25512

Restraint system for ergometer  
[NASA-CASE-MFS-21046-1] c 14 N73-27377

Reeling system  
[NASA-CASE-LAR-10129-2] c 37 N74-20063

Restraining mechanism  
[NASA-CASE-MSC-13054] c 54 N78-17677

Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662

**CONSTRUCTION MATERIALS**  
Foldable construction block  
[NASA-CASE-MSC-12233-1] c 15 N72-25454

Foldable construction block  
[NASA-CASE-MSC-12233-2] c 32 N73-13921

Structural panels  
[NASA-CASE-ARC-11429-2-CU] c 27 N87-22845

**CONTACT POTENTIALS**  
Ionospheric battery Patent  
[NASA-CASE-XGS-01593] c 03 N70-35408

**CONTAINERLESS MELTS**  
Method of crystallization --- in gravity-free environments  
[NASA-CASE-MFS-23001-1] c 76 N77-32919

Gas levitator having fixed levitation node for containerless processing  
[NASA-CASE-MFS-25509-1] c 35 N83-24828

Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650

Apparatus for production of ultrapure amorphous metals utilizing acoustic cooling  
[NASA-CASE-NPO-15658-1] c 26 N86-32551

Quasi-containerless glass formation method and apparatus  
[NASA-CASE-MFS-28090-1] c 27 N87-21111

Apparatus and method for quiescent containerless processing of high temperature metals and alloys in low gravity  
[NASA-CASE-MFS-28087-1] c 35 N87-23944

Sample levitation and melt in microgravity  
[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489

**CONTAINERS**  
Fluid containers and resealable septum therefor Patent  
[NASA-CASE-NPO-10123] c 15 N71-24835

Method for detecting leaks in hermetically sealed containers Patent  
[NASA-CASE-ERC-10045] c 15 N71-24910

Apparatus for detecting the amount of material in a resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397

**CONTAINMENT**  
Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991

**CONTAMINANTS**  
Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089

Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279

**CONTAMINATION**  
Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871

Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922

Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372

Bacterial contamination monitor  
[NASA-CASE-GSC-10879-1] c 14 N72-25413

Biocontamination and particulate detection system  
[NASA-CASE-NPO-13953-1] c 35 N79-28527

**CONTINUOUS RADIATION**  
CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512

Pseudo continuous wave instrument --- ultrasonics  
[NASA-CASE-LAR-12260-1] c 35 N79-10390

Low-frequency radio navigation system  
[NASA-CASE-NPO-15264-1] c 04 N84-27713

**CONTINUOUS WAVE LASERS**  
High power laser apparatus and system  
[NASA-CASE-XLE-2529-2] c 36 N75-27364

Continuous plasma laser --- method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
[NASA-CASE-NXP-04167-3] c 36 N77-19416

Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159

Coherently pulsed laser source  
[NASA-CASE-NPO-15111-1] c 36 N82-29589

Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943

**CONTINUOUS WAVE RADAR**  
Phase-locked loop with sideband rejecting properties Patent  
[NASA-CASE-XNP-02723] c 07 N70-41680

FM/CW radar system  
[NASA-CASE-MFS-22234-1] c 32 N79-10264

Method and apparatus for measuring distance  
[NASA-CASE-MSC-20912-1] c 32 N88-26568

**CONTINUUM FLOW**  
Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1-CU] c 31 N88-24814

**CONTOURS**  
Contour surveying system Patent  
[NASA-CASE-XLA-08646] c 14 N71-17586

Contourograph system for monitoring electrocardiograms  
[NASA-CASE-MSC-13407-1] c 10 N72-20225

Variable contour securing system  
[NASA-CASE-MSC-16270-1] c 37 N78-27423

Device for measuring the contour of a surface  
[NASA-CASE-LAR-11869-1] c 74 N78-27904

Contour detector and data acquisition system for the left ventricular outline  
[NASA-CASE-ARC-10985-1] c 52 N79-10724

Contour measurement system  
[NASA-CASE-MFS-23726-1] c 43 N79-26439

Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388

Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MSC-18422-1] c 37 N82-16408

Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711

**CONTROL**  
Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191

Apparatus for testing a pressure responsive instrument Patent  
[NASA-CASE-XMF-04134] c 14 N71-23755

Failure detection and control means for improved drift performance of a gimbaled platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175

Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395

Control means for a solid state crossbar switch  
[NASA-CASE-NPO-15066-1] c 33 N82-29538  
Television camera video level control system  
[NASA-CASE-MSC-18578-1] c 32 N85-21427  
A digitally controlled system for effecting and presenting  
a selected electrical resistance  
[NASA-CASE-MFS-29149-1] c 33 N87-29737

**CONTROL BOARDS**

Pressure monitoring with a plurality of ionization gauges  
controlled at a central location Patent  
[NASA-CASE-XLE-00787] c 14 N71-21090

**CONTROL DATA (COMPUTERS)**

Computer interface system  
[NASA-CASE-NPO-13428-1] c 60 N77-12721

**CONTROL EQUIPMENT**

Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772  
Drift compensation circuit for analog to digital converter  
Patent  
[NASA-CASE-XNP-04780] c 08 N71-19687  
Attitude controls for VTOL aircraft Patent  
[NASA-CASE-XAC-08972] c 02 N71-20570  
Control device Patent  
[NASA-CASE-XAC-10019] c 15 N71-23809  
Controlled release device Patent  
[NASA-CASE-XKS-03338] c 15 N71-24043  
Dual polarity full wave dc motor drive Patent  
[NASA-CASE-XNP-07477] c 09 N71-26092  
Digital memory in which the driving of each word location  
is controlled by a switch core Patent  
[NASA-CASE-XNP-01466] c 10 N71-26434  
Fluid jet amplifier Patent  
[NASA-CASE-XLE-09341] c 12 N71-28741  
System for controlling the operation of a variable signal  
device  
[NASA-CASE-NPO-11064] c 07 N72-11150  
Solid state remote circuit selector switch  
[NASA-CASE-LEW-10387] c 09 N72-22201  
Synchronous orbit battery cyclor  
[NASA-CASE-GSC-11211-1] c 03 N72-25020  
Infinite range electronics gain control circuit  
[NASA-CASE-GSC-10786-1] c 10 N72-28241  
Interferometric rotation sensor  
[NASA-CASE-ARC-10278-1] c 14 N73-25463  
Digital controller for a Baum folding machine --- providing  
automatic counting and machine shutoff  
[NASA-CASE-LAR-10688-1] c 37 N74-21056  
Flow control valve --- for high temperature fluids  
[NASA-CASE-NPO-11951-1] c 37 N74-21065  
Variable ratio mixed-mode bilateral master-slave control  
system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c 18 N75-27041  
Anthropomorphic master/slave manipulator system  
[NASA-CASE-ARC-10756-1] c 54 N77-32721  
Power factor control system for AC induction motors  
[NASA-CASE-MFS-23280-1] c 33 N78-10376  
Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384  
Control for nuclear thermionic power source  
[NASA-CASE-NPO-13114-2] c 73 N78-28913  
Illumination control apparatus for compensating solar  
light  
[NASA-CASE-KSC-11010-1] c 74 N79-12890  
Dual acting slit control mechanism  
[NASA-CASE-LAR-11370-1] c 35 N80-28686  
Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718  
Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279  
Electronic system for high power load control --- solar  
arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126  
Pulsed thyristor trigger control circuit  
[NASA-CASE-MFS-25616-1] c 33 N84-16455  
Magnetic spin reduction system for free spinning  
objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352  
Apparatus and method of capturing an orbiting  
spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985  
Auxiliary data input device  
[NASA-CASE-LAR-13626-1] c 37 N87-25584  
Controlled sample orientation and rotation in an acoustic  
levitator  
[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422

**CONTROL ROCKETS**  
Decomposition unit Patent  
[NASA-CASE-XMS-00583] c 28 N70-38504

**CONTROL RODS**  
Null device for hand controller Patent  
[NASA-CASE-XLA-01808] c 15 N71-20740

**CONTROL SIMULATION**  
Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806

**CONTROL STABILITY**

Apparatus for sensor failure detection and correction  
in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115  
Apparatus for damping operator induced oscillations of  
a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493  
Controlled sample orientation and rotation in an acoustic  
levitator  
[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422

**CONTROL SURFACES**

Conical valve plug Patent  
[NASA-CASE-XLE-00715] c 15 N70-34859  
Attitude control for spacecraft Patent  
[NASA-CASE-XNP-02982] c 31 N70-41855  
Vortex-lift roll-control device  
[NASA-CASE-LAR-11868-2] c 08 N79-14108  
Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968  
Thermal barrier pressure seal --- shielding junctions  
between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363  
Control surface actuator  
[NASA-CASE-LAR-12852-1] c 05 N89-11738

**CONTROL SYSTEMS DESIGN**

Reactant pressure differential control for fuel cell  
gases  
[NASA-CASE-MSC-20127-2] c 37 N85-34403  
Brushless DC motor control system responsive to control  
signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681  
ARC length control for plasma welding  
[NASA-CASE-MSC-20900-1] c 37 N88-30131

**CONTROL UNITS (COMPUTERS)**

Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633

**CONTROL VALVES**

Electromechanical actuator  
[NASA-CASE-XNP-05975] c 15 N69-23185  
Full flow with shut off and selective drainage control  
valve Patent application  
[NASA-CASE-ERC-10208] c 15 N70-10867  
Conical valve plug Patent  
[NASA-CASE-XLE-00715] c 15 N70-34859  
Control valve and co-axial variable injector Patent  
[NASA-CASE-XNP-09702] c 15 N71-17654  
Electrohydrodynamic control valve Patent  
[NASA-CASE-NPO-10416] c 12 N71-27332  
Force-balanced, throttle valve Patent  
[NASA-CASE-NPO-10808] c 15 N71-27432  
Dual stage check valve  
[NASA-CASE-MSC-13587-1] c 15 N73-30459  
Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c 02 N74-20646  
Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c 37 N75-25185  
Pressure modulating valve  
[NASA-CASE-MSC-14905-1] c 37 N77-28487  
Fluid valve assembly  
[NASA-CASE-MSC-12731-1] c 37 N78-25426  
Flow diverter valve and flow diversion method  
[NASA-CASE-HQN-00573-1] c 37 N79-33468  
Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654  
Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433  
Electrical servo actuator bracket --- fuel control valves  
on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483  
Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603  
Slow opening valve --- valve design for shuttle portable  
oxygen system  
[NASA-CASE-MSC-20112-1] c 37 N85-20338  
Remotely controllable mixing system  
[NASA-CASE-MFS-28153-1] c 31 N86-32589  
Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332  
Monogroove cold plate  
[NASA-CASE-MSC-20946-1] c 34 N87-28867

**CONTROLLED ATMOSPHERES**  
Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c 09 N70-20737  
High voltage pulse generator Patent  
[NASA-CASE-MSC-12178-1] c 09 N71-13518  
Exposure system for animals Patent  
[NASA-CASE-XAC-05333] c 11 N71-22875  
Space station architecture, module, berthing hub, shell  
assembly, berthing mechanism and utility connection  
channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612

**CONTROLLERS**  
Three axis controller Patent  
[NASA-CASE-XFR-00181] c 21 N70-33279  
Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073

Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255  
Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c 08 N74-10942  
Wide power range microwave feedback controller  
[NASA-CASE-GSC-12146-1] c 33 N78-32340  
Active nutation controller  
[NASA-CASE-GSC-12273-1] c 35 N80-21719  
Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432  
Controller for computer control of brushless dc motors  
--- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352  
Motor power factor controller with a reduced voltage  
starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360  
Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975  
Three-phase power factor controller with induced EMF  
sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661  
Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288  
Reconfigurable work station for a video display unit and  
keyboard  
[NASA-CASE-MFS-26009-1-SB] c 54 N88-24163  
A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864  
Nanosequencer digital logic controller  
[NASA-CASE-NPO-16116-2] c 60 N88-29310  
Fluidic momentum controller  
[NASA-CASE-MSC-20906-2] c 35 N89-15379

**CONVECTION**

Method and apparatus for minimizing convection during  
crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968

**CONVECTIVE FLOW**

Geysering inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-KSC-10615] c 15 N73-12486  
Method and apparatus for convection control of metallic  
halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417  
Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

**CONVECTIVE HEAT TRANSFER**

Thin film gauge --- for measuring convective heat transfer  
rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c 35 N74-22095  
Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

**CONVERGENCE**

Shock wave convergence apparatus  
[NASA-CASE-MFS-20890] c 14 N72-22439

**CONVERGENT NOZZLES**

Nozzle extraction process and handlemeter for  
measuring handle  
[NASA-CASE-LAR-12147-1] c 31 N79-11246

**CONVERGENT-DIVERGENT NOZZLES**

Gimbaled, partially submerged rocket nozzle Patent  
[NASA-CASE-XMF-01544] c 28 N70-34162  
Combustion chamber Patent  
[NASA-CASE-XLE-04857] c 28 N71-23968  
Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392  
Wind tunnel supplementary Mach number minimum  
section insert  
[NASA-CASE-LAR-12532-1] c 09 N82-11088  
Nozzle fabrication technique  
[NASA-CASE-MSC-21299-1] c 20 N88-24684

**CONVERSION**

Technique for measuring gas conversion factors  
[NASA-CASE-LAR-13220-1] c 34 N86-12547

**CONVERTERS**

Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c 35 N76-16391

**CONVEYORS**

System and method for refurbishing and processing  
parachutes --- monorial conveyor system  
[NASA-CASE-KSC-11042-2] c 02 N81-26073  
Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330  
Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187  
Acoustic system for material transport  
[NASA-CASE-NPO-15453-1] c 71 N83-32515  
Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722

**CONVOLUTION INTEGRALS**

Real time pipelined system for forming the sum of  
products in the processing of video data  
[NASA-CASE-NPO-16462-1-CU] c 60 N88-24169

**COOLANTS**

Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182



## COOLING

- Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486
- Voltage regulator with plural parallel power source sections Patent  
[NASA-CASE-GSC-10891-1] c 10 N71-26626
- Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440
- Compact pulsed laser having improved heat conductance  
[NASA-CASE-NPO-13147-1] c 36 N77-25502
- Steam cooled rich-burn combustor liner  
[NASA-CASE-LEW-13609-1] c 25 N83-17628
- Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221
- Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560
- Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577
- Air modulation apparatus  
[NASA-CASE-LEW-13524-1] c 07 N84-33410
- Heat pipe cooled probe  
[NASA-CASE-LAR-12588-1] c 34 N85-21568
- High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938
- Surface Tension Confined Liquid Cryogen Cooler (STCLCC)  
[NASA-CASE-GSC-13112-1] c 31 N88-29050
- Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151
- COOLING SYSTEMS**
- Automatic thermal switch Patent  
[NASA-CASE-XNP-03796] c 23 N71-15467
- Differential temperature transducer Patent  
[NASA-CASE-XAC-00812] c 14 N71-15598
- Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114-2] c 09 N71-24807
- Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654
- Self-adjusting multisegment, deployable, natural circulation radiator Patent  
[NASA-CASE-XHQ-03673] c 33 N71-29046
- Heat conductive resiliently compressible structure for space electronics package modules Patent  
[NASA-CASE-MSC-12389] c 33 N71-29052
- Method and device for cooling Patent  
[NASA-CASE-HQN-00938] c 33 N71-29053
- Liquid spray cooling method Patent  
[NASA-CASE-XLE-00027] c 33 N71-29152
- Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948
- Light shield and cooling apparatus --- high intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c 34 N74-23066
- Refrigerated coaxial coupling --- for microwave equipment  
[NASA-CASE-NPO-13504-1] c 33 N75-30430
- Rocket chamber and method of making  
[NASA-CASE-LEW-11118-2] c 20 N76-14191
- Tubular sublimatory evaporator heat sink  
[NASA-CASE-ARC-10912-1] c 34 N77-19353
- Arc control in compact arc lamps  
[NASA-CASE-NPO-10870-1] c 33 N77-22386
- Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12830-1] c 07 N77-23106
- Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12321-1] c 37 N78-10467
- Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237
- Multistation refrigeration system  
[NASA-CASE-NPO-13839-1] c 31 N78-25256
- Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721
- Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c 34 N79-13288
- Closed loop spray cooling apparatus  
[NASA-CASE-LEW-11981-2] c 34 N79-20336
- Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579
- Heat exchanger and method of making  
[NASA-CASE-LEW-12441-3] c 44 N81-24519
- Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114
- Waveguide cooling system  
[NASA-CASE-NPO-15401-1] c 32 N83-27085
- Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324
- Radiative cooler --- spacecraft radiators  
[NASA-CASE-NPO-15465-1] c 34 N84-22903

- Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577
- High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12950-2] c 34 N85-29179
- Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182
- Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286
- Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433
- Monogroove cold plate  
[NASA-CASE-MSC-20946-1] c 34 N87-28867
- Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

## COORDINATES

- Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c 14 N70-36907
- Lightning tracking system  
[NASA-CASE-KSC-10729-1] c 09 N73-32110
- Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056
- Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764

## COPOLYMERIZATION

- Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-1] c 27 N84-27885
- Chemical control of nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-2] c 25 N85-28982
- Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560
- Process for curing bismaleimide resins  
[NASA-CASE-ARC-11429-4CU] c 27 N87-15304
- Polyether-polyester graft copolymer  
[NASA-CASE-LAR-13447-1] c 27 N88-18725

## COPOLYMERS

- Method of producing alternating ether siloxane copolymers Patent  
[NASA-CASE-XMF-02584] c 06 N71-20905
- Dicyanoacetylene polymers Patent  
[NASA-CASE-XNP-03250] c 06 N71-23500
- Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-3] c 27 N80-24438
- Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187
- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-3] c 27 N85-21350
- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-4] c 27 N85-21351
- Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380
- Poly(carbonate-mide) polymer  
[NASA-CASE-LAR-13292-1] c 27 N86-24841
- Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526
- Polyether-polyester graft copolymer  
[NASA-CASE-LAR-13447-1] c 27 N88-18725

## COPPER

- Method for etching copper Patent  
[NASA-CASE-XGS-06306] c 17 N71-16044
- Method of plating copper on aluminum Patent  
[NASA-CASE-XLA-08966-1] c 17 N71-25903
- Brazing alloy composition  
[NASA-CASE-XMF-06053] c 26 N75-27126
- Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469
- Metal (2) 4,4',4'',4''' phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- COPPER ALLOYS**
- Zirconium modified nickel-copper alloy  
[NASA-CASE-LEW-12245-1] c 26 N77-20201
- Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015
- Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N88-24753

## COPPER COMPOUNDS

- Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027

- Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440
- Brazing alloy  
[NASA-CASE-XNP-03878] c 26 N75-27127

## COPPER FLUORIDES

- Preparation of high purity copper fluoride  
[NASA-CASE-LEW-10794-1] c 06 N72-17093

## COPPER OXIDES

- Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

## CORDAGE

- Method of forming a root cord restrained convolute section  
[NASA-CASE-MSC-12398] c 05 N72-20098

## CORE STORAGE

- Semiconductor-ferroelectric memory device  
[NASA-CASE-ERC-10307] c 08 N72-21198

## CORES

- Method of making rolling element bearings  
[NASA-CASE-LEW-11087-2] c 37 N74-15128
- Electromagnetic transducer recording head having a laminated core section and tapered gap  
[NASA-CASE-NPO-10711-1] c 35 N77-21392
- Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296
- Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N88-23937

## CORK (MATERIALS)

- Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388

## CORRECTION

- Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978

## CORRELATION

- Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968
- CORRELATION DETECTION**
- Correlation type phase detector --- with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c 33 N75-26243
- Interferometric locating system  
[NASA-CASE-NPO-14173-1] c 04 N80-32359

## CORRELATORS

- Millimeter wave radiometer for radio astronomy Patent  
[NASA-CASE-XNP-09832] c 30 N71-23723
- Digital demodulator-correlator  
[NASA-CASE-NPO-13982-1] c 32 N79-14267
- Baseband signal combiner for large aperture antenna array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308
- Serial data correlator/code translator  
[NASA-CASE-KSC-11025-1] c 32 N83-13323

## CORROSION

- Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039

## CORROSION PREVENTION

- Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00284] c 15 N71-16075
- Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c 17 N71-16393
- Controlled glass bead peening Patent  
[NASA-CASE-XLA-07390] c 15 N71-18616
- Corrosion resistant beryllium Patent  
[NASA-CASE-LEW-10327] c 17 N71-33408
- Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions --- by adding potassium hydroxide to hydrazine  
[NASA-CASE-NPO-12122-1] c 24 N76-14203
- Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579
- Method of protecting a surface with a silicon-slurry/aluminide coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441
- Heat pipes containing alkali metal working fluid  
[NASA-CASE-LEW-12253-1] c 74 N83-19596
- Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550
- Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736
- CORROSION RESISTANCE**
- High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-00726] c 17 N71-15644
- Solder flux which leaves corrosion-resistant coating Patent  
[NASA-CASE-XNP-03459-2] c 18 N71-15688
- High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-02991] c 17 N71-16025

- Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078
- Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482
- Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188
- Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371
- Covering solid, film cooled surfaces with a duplex thermal barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177
- Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597
- Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005
- Castable hot corrosion resistant alloy  
[NASA-CASE-LEW-14134-2] c 26 N89-14303
- CORRUGATED PLATES**
- Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296
- Truss-core corrugation for compressive loads  
[NASA-CASE-LAR-13438-1] c 31 N89-12786
- CORRUGATING**
- Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539
- Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296
- Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450
- COSINE SERIES**
- Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-10503-1] c 09 N72-21248
- Function generator for synthesizing complex vibration mode patterns  
[NASA-CASE-LAR-10310-1] c 10 N73-20253
- COSMIC DUST**
- Cosmic dust sensor  
[NASA-CASE-GSC-10503-1] c 14 N72-20381
- Cosmic dust or other similar outer space particles impact location detector  
[NASA-CASE-GSC-11291-1] c 25 N72-33696
- Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331
- Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c 35 N76-15431
- COST ANALYSIS**
- Low cost solar energy collection system  
[NASA-CASE-NPO-13579-1] c 44 N78-17460
- COST EFFECTIVENESS**
- Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589
- COUCHES**
- Shock absorbing support and restraint means Patent  
[NASA-CASE-XMS-01240] c 05 N70-35152
- Energy absorbing structure Patent Application  
[NASA-CASE-MSC-12279-1] c 15 N70-35679
- Articulated multiple couch assembly Patent  
[NASA-CASE-MSC-11253] c 05 N71-12343
- Collapsible Apollo couch  
[NASA-CASE-MSC-13140] c 05 N72-11085
- COULOMETERS**
- Electrochemical coulometer and method of forming same Patent  
[NASA-CASE-XGS-05434] c 03 N71-20491
- Coulometer and third electrode battery charging circuit Patent  
[NASA-CASE-GSC-10487-1] c 03 N71-24719
- State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596
- COUNTERBALANCES**
- Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629
- COUNTERS**
- Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137
- Electronic strain-level counter  
[NASA-CASE-LAR-10756-1] c 32 N73-26910
- Electrochemical detection device --- for use in microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073
- Redundant operation of counter modules  
[NASA-CASE-NPO-14162-1] c 60 N81-15706
- Film advance indicator  
[NASA-CASE-LAR-12474-1] c 35 N82-26628
- Apparatus and process for microbial detection and enumeration  
[NASA-CASE-LAR-12709-1] c 35 N82-28604
- COUNTING CIRCUITS**
- Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432
- Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463
- Relay binary circuit Patent  
[NASA-CASE-XMF-00421] c 09 N70-34502
- Reversible ring counter employing cascaded single SCR stages Patent  
[NASA-CASE-XGS-01473] c 09 N71-10673
- Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent  
[NASA-CASE-XLE-01246] c 14 N71-10797
- Magnetic counter Patent  
[NASA-CASE-XNP-08836] c 09 N71-12515
- Synchronous counter Patent  
[NASA-CASE-XGS-02440] c 08 N71-19432
- Digital cardiometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896
- Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897
- Noninterruptable digital counting system Patent  
[NASA-CASE-XNP-09759] c 08 N71-24891
- Frequency measurement by coincidence detection with standard frequency  
[NASA-CASE-MSC-14649-1] c 33 N76-16331
- Redundant operation of counter modules  
[NASA-CASE-NPO-14162-1] c 60 N81-15706
- COUPLING**
- Coupling for linear shaped charge Patent  
[NASA-CASE-XLA-00189] c 33 N70-36846
- Expandable support means  
[NASA-CASE-NPO-11059] c 15 N72-17454
- Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568
- Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319
- Coupling an induction motor type generator to ac power lines --- making windmill generators compatible with public power lines  
[NASA-CASE-MFS-25302-2] c 33 N84-33660
- Magnetic drive coupling  
[NASA-CASE-MSC-21171-1] c 37 N88-23973
- Optical pressure sealing coupling (light joint)  
[NASA-CASE-MFS-29348-1] c 74 N88-25303
- COUPLING CIRCUITS**
- Flipflop interrogator and bi-polar current driver Patent  
[NASA-CASE-XGS-03058] c 10 N71-19547
- Antenna array at focal plane of reflector with coupling network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233
- Phase modulator Patent  
[NASA-CASE-MSC-13201-1] c 07 N71-28429
- Signal path series step biased multidevice high efficiency amplifier Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430
- Automatic quadrature control and measuring system --- using optical coupling circuitry  
[NASA-CASE-MFS-21660-1] c 35 N74-21017
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c 33 N75-19520
- Non-contacting power transfer device  
[NASA-CASE-GSC-12595-1] c 33 N82-24422
- COUPLINGS**
- Coupling device  
[NASA-CASE-XMS-07846-1] c 09 N69-21927
- Tubular coupling having frangible connecting means  
[NASA-CASE-XLA-02854] c 15 N69-27490
- Quick release separation mechanism Patent  
[NASA-CASE-XLA-01441] c 15 N70-41679
- Indexed keyed connection Patent  
[NASA-CASE-XMS-02532] c 15 N70-41808
- Quick attach and release fluid coupling assembly Patent  
[NASA-CASE-XKS-01985] c 15 N71-10782
- Ratchet mechanism Patent  
[NASA-CASE-MFS-12805] c 15 N71-17805
- Split nut separation system Patent  
[NASA-CASE-XNP-06914] c 15 N71-21489
- Duct coupling for single-handed operation Patent  
[NASA-CASE-MFS-20395] c 15 N71-24903
- Isolation coupling arrangement for a torque measuring system  
[NASA-CASE-XLA-04897] c 15 N72-22482
- Refrigerated coaxial coupling --- for microwave equipment  
[NASA-CASE-NPO-13504-1] c 33 N75-30430
- Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366
- Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772
- Coupling device for moving vehicles  
[NASA-CASE-GSC-12322-1] c 37 N80-14398
- Device for coupling a first vehicle to a second vehicle  
[NASA-CASE-GSC-12429-1] c 37 N81-14320
- Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605
- Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673
- Apparatus for releasably connecting first and second objects in predetermined space relationship  
[NASA-CASE-MSC-18969-1] c 18 N84-22605
- Connection system --- insuring against loss of a tool component without using multiple tethers  
[NASA-CASE-MSC-20319-1] c 37 N85-21649
- Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037
- Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977
- Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713
- COVARIANCE**
- Auto covariance computer  
[NASA-CASE-LAR-12968-1] c 60 N86-21154
- COVERINGS**
- Apparatus for ejection of an instrument cover  
[NASA-CASE-XMF-04132] c 15 N69-27502
- Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394
- Hatch cover  
[NASA-CASE-MSC-21356-1] c 18 N88-24671
- COWLINGS**
- Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293
- CRACK OPENING DISPLACEMENT**
- Ultrasonic method and apparatus for determining crack opening load  
[NASA-CASE-LAR-13889-1] c 39 N88-30160
- CRACKING (FRACTURING)**
- Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c 17 N71-16393
- TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c 39 N78-16387
- CRACKS**
- Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736
- CRANES**
- Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828
- CRASH LANDING**
- Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MFS-16609-3] c 03 N76-32140
- CREEP RUPTURE STRENGTH**
- Nickel-base alloy containing Mo-W-Al-Cr-Ta-Zr-C-Nb-B Patent  
[NASA-CASE-XLE-02082] c 17 N71-16026
- Heat treatment for superalloy  
[NASA-CASE-LEW-14262-1] c 26 N87-28647
- CREEP TESTS**
- Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375
- CRITICAL EXPERIMENTS**
- Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372
- CRITICAL TEMPERATURE**
- Stable superconducting magnet --- high current levels below critical temperature  
[NASA-CASE-XMF-05373-1] c 33 N79-21264
- CROSS CORRELATION**
- Cross correlation anomaly detection system  
[NASA-CASE-NPO-13283] c 38 N78-17395
- Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846
- CROSS FLOW**
- Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968
- Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194
- Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759
- CROSS POLARIZATION**
- Adaptive polarization separation  
[NASA-CASE-LAR-12196-1] c 33 N81-26358
- CROSSED FIELDS**
- Plasma accelerator Patent  
[NASA-CASE-XLA-00675] c 25 N70-33267
- Energy conversion apparatus Patent  
[NASA-CASE-XLE-00212] c 03 N70-34134
- Crossed-field MHD plasma generator/accelerator Patent  
[NASA-CASE-XLA-03374] c 25 N71-15562
- CROSSLINKING**
- Trifunctional alcohol  
[NASA-CASE-NPO-10714] c 06 N69-31244
- Trimerization of aromatic nitriles  
[NASA-CASE-LEW-12053-1] c 27 N78-15276

Polymeric foams from cross-linkable poly-n-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c 27 N78-31232  
In situ self cross-linking of polyvinyl alcohol battery separators  
[NASA-CASE-LEW-12972-1] c 44 N79-25481  
Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307  
Method of cross-linking polyvinyl alcohol and other water soluble resins  
[NASA-CASE-LEW-13103-1] c 27 N80-32516  
Process for the preparation of fluorine containing crosslinked elastomeric polytriazine and product so produced  
[NASA-CASE-ARC-11248-1] c 27 N81-17259  
The 1,2,4-oxadiazole elastomers --- heat resistant polymers  
[NASA-CASE-ARC-11253-1] c 27 N81-17262  
In-situ cross linking of polyvinyl alcohol --- application to battery separator films  
[NASA-CASE-LEW-13135-2] c 27 N81-24257  
Cross-linked polyvinyl alcohol and method of making same  
[NASA-CASE-LEW-13101-2] c 23 N81-29160  
Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188  
Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900  
Low temperature cross linking polyimides  
[NASA-CASE-LEW-12876-2] c 27 N83-29392  
Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950  
Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040  
Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744  
Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-1] c 27 N84-22747  
Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-1] c 27 N85-20123  
Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-5] c 27 N85-21352  
Chemical control of nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-2] c 25 N85-28982  
Process for crosslinking methylene-containing aromatic polymers with ionizing radiation  
[NASA-CASE-LAR-13448-1] c 27 N86-24840  
Laminate comprising fibers embedded in cured amine terminated bis-imide  
[NASA-CASE-ARC-11421-3] c 24 N86-25416  
Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848  
Semi-2-interpenetrating networks of high temperature systems  
[NASA-CASE-LAR-13450-1] c 27 N87-28657  
Polyether-polyester graft copolymer  
[NASA-CASE-LAR-13447-1] c 27 N88-18725

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[NASA-CASE-XLA-03105] c 15 N69-27483

**CRUCIFORM WINGS**  
Solar powered aircraft  
[NASA-CASE-LAR-12615-1] c 05 N84-12154

**CRUDE OIL**  
Decontamination of petroleum products. Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499  
Crude oil desulfurization  
[NASA-CASE-NPO-14542-1] c 25 N82-23282

**CRUSTAL FRACTURES**  
System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603

**CRYOGENIC COOLING**  
Support assembly for cryogenically coolable low-noise choke waveguide  
[NASA-CASE-NPO-14253-1] c 32 N80-32605  
Low cost cryostat  
[NASA-CASE-NPO-14513-1] c 35 N81-14287  
Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574  
Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223  
Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-23917

Cryogenic regenerator including saran-carbon heat conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946

**CRYOGENIC EQUIPMENT**  
Refrigeration apparatus  
[NASA-CASE-NPO-10309] c 15 N69-23190  
Piping arrangement through a double chamber structure  
[NASA-CASE-XNP-08882] c 15 N69-39935  
Method and apparatus for cryogenic wire stripping Patent  
[NASA-CASE-MFS-10340] c 15 N71-17628  
Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725  
Valving device for automatic refilling in cryogenic liquid systems  
[NASA-CASE-NPO-11177] c 15 N72-17453  
Dual stage check valve  
[NASA-CASE-MSC-13587-1] c 15 N73-30459  
Heat operated cryogenic electrical generator  
[NASA-CASE-NPO-13303-1] c 20 N75-24837  
Cryostat system for temperatures on the order of 2 deg K or less  
[NASA-CASE-NPO-13459-1] c 31 N77-10229  
Device for tensioning test specimens within an hermetically sealed chamber  
[NASA-CASE-MFS-23281-1] c 35 N77-22450  
Multistation refrigeration system  
[NASA-CASE-NPO-13839-1] c 31 N78-25256  
System for and method of freezing biological tissue  
[NASA-CASE-GSC-12173-1] c 51 N79-10694  
Shock isolator for operating a diode laser on a closed-cycle refrigerator  
[NASA-CASE-GSC-12297-1] c 37 N79-28549  
Low temperature latching solenoid  
[NASA-CASE-MSC-18106-1] c 33 N82-11357  
Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497  
Magnetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404  
Propulsion apparatus and method using boil-off gas from a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368  
Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817  
Surface Tension Confined Liquid Cryogen Cooler (STCLCC)  
[NASA-CASE-GSC-13112-1] c 31 N88-29050

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Apparatus for transferring cryogenic liquids Patent  
[NASA-CASE-XLE-00345] c 15 N70-38020  
Cryogenic storage system Patent  
[NASA-CASE-XMS-04390] c 31 N70-41871  
Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015  
Method of making a filament-wound container Patent  
[NASA-CASE-XLE-03803-2] c 15 N71-17651  
Cryogenic insulation system Patent  
[NASA-CASE-XLE-04222] c 23 N71-22881  
Panelized high performance multilayer insulation Patent  
[NASA-CASE-MFS-14023] c 33 N71-25351  
Cryogenic thermal insulation Patent  
[NASA-CASE-XMF-05046] c 33 N71-28892  
Zero gravity shadow shield aligner  
[NASA-CASE-KSC-10622-1] c 31 N72-21893  
Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093  
Low heat leak connector for cryogenic system  
[NASA-CASE-XLE-02367-1] c 31 N79-21225  
Cryogenic container compound suspension strap  
[NASA-CASE-ARC-11157-1] c 37 N80-18393  
Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841  
Cryogenic insulation system  
[NASA-CASE-LAR-13506-1] c 27 N89-12741

**CRYOGENIC FLUIDS**  
Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423  
Venting vapor apparatus Patent  
[NASA-CASE-XLE-00288] c 15 N70-34247  
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[NASA-CASE-XLE-00715] c 15 N70-34859  
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[NASA-CASE-XLE-00397] c 15 N70-36492  
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[NASA-CASE-XLE-00688] c 14 N70-41330  
Cryogenic connector for vacuum use Patent  
[NASA-CASE-XGS-02441] c 15 N70-41629  
Liquid flow sight assembly Patent  
[NASA-CASE-XLE-02998] c 14 N70-42074

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[NASA-CASE-XNP-03796] c 23 N71-15467  
Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968  
Apparatus for measuring thermal conductivity Patent  
[NASA-CASE-XGS-01052] c 14 N71-15992  
Process of forming particles in a cryogenic path Patent  
[NASA-CASE-NPO-10250] c 23 N71-16212  
Superconducting alternator Patent  
[NASA-CASE-XLE-02823] c 09 N71-23443  
Flow angle sensor and read out system Patent  
[NASA-CASE-XLE-04503] c 14 N71-24864  
Geysering inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-KSC-10615] c 15 N73-12486  
Magnetocaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c 37 N74-27904  
Cryogenic liquid sensor  
[NASA-CASE-NPO-10619-1] c 35 N77-21393  
Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786

**CRYOGENIC GYROSCOPES**  
Cryogenic gyroscope housing --- with annular disks for gas spin-up  
[NASA-CASE-MFS-21136-1] c 35 N74-18323

**CRYOGENIC MAGNETS**  
Superconducting alternator  
[NASA-CASE-XLE-02824] c 03 N69-39890

**CRYOGENIC ROCKET PROPELLANTS**  
Quick attach and release fluid coupling assembly Patent  
[NASA-CASE-XKS-01985] c 15 N71-10782  
Hot wire liquid level detector for cryogenic fluids Patent  
[NASA-CASE-XLE-00454] c 23 N71-17802  
Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042

**CRYOGENIC STORAGE**  
Insulation system Patent  
[NASA-CASE-XLE-02647] c 18 N71-23658  
Filament wound container Patent  
[NASA-CASE-XLE-03803] c 15 N71-23816

**CRYOGENIC TEMPERATURE**  
Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1-CU] c 33 N88-26596

**CRYOGENIC WIND TUNNELS**  
Continuous self-locking spiral wound seal --- for maintaining pressure between chambers in cryogenic wind tunnels  
[NASA-CASE-LAR-12315-1] c 37 N82-24490  
Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558  
Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355

**CRYOGENICS**  
Low temperature aluminum alloy Patent  
[NASA-CASE-XMF-02786] c 17 N71-20743  
Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654  
Germanium coated microbridge and method  
[NASA-CASE-MFS-23274-1] c 33 N78-13320  
Dielectric-loaded waveguide circulator for cryogenically cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372  
High toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-3] c 26 N80-32484  
Multispectral scanner optical system  
[NASA-CASE-MSC-18255-1] c 74 N80-33210  
Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258

**CRYOLITE**  
Ultraviolet filter  
[NASA-CASE-XNP-02340] c 23 N69-24332

**CRYOSTATS**  
Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-XMF-02964] c 14 N71-17659  
Horizontal cryostat for fatigue testing Patent  
[NASA-CASE-XMF-10968] c 14 N71-24234  
Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093  
Cryostat system for temperatures on the order of 2 deg K or less  
[NASA-CASE-NPO-13459-1] c 31 N77-10229  
Low cost cryostat  
[NASA-CASE-NPO-14513-1] c 35 N81-14287

**CRYOTRAPPING**  
Atomic hydrogen storage --- cryotrapping and magnetic field strength  
[NASA-CASE-LEW-12081-2] c 28 N80-20402

**CRYSTAL DEFECTS**  
Method of controlling defect orientation in silicon crystal ribbon growth  
[NASA-CASE-NPO-13918-1] c 76 N79-11920

Method for growing low defect, high purity crystalline layers utilizing lateral overgrowth of a patterned mask  
[NASA-CASE-NPO-15813-2] c 76 N87-15882

**CRYSTAL FILTERS**

Infrared tunable laser  
[NASA-CASE-ARC-10463-1] c 09 N73-32111  
Partial polarizer filter  
[NASA-CASE-GSC-12225-1] c 74 N79-14891

**CRYSTAL GROWTH**

Apparatus for producing high purity silicon carbide crystals Patent  
[NASA-CASE-XLA-02057] c 26 N70-40015  
Method of producing crystalline materials  
[NASA-CASE-NPO-10440] c 15 N72-21466  
Vapor phase growth of groups 3-5 compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c 25 N75-26043  
Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c 76 N76-25049  
Method of crystallization --- in gravity-free environments  
[NASA-CASE-MFS-23001-1] c 76 N77-32919  
Pressure transducer --- using a monomeric charge transfer complex sensor  
[NASA-CASE-NPO-11150] c 35 N78-17359  
Method of controlling defect orientation in silicon crystal ribbon growth  
[NASA-CASE-NPO-13918-1] c 76 N79-11920  
Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798  
Method of mitigating titanium impurities effects in p-type silicon material for solar cells  
[NASA-CASE-NPO-14635-1] c 44 N80-24741  
Means for growing ribbon crystals without subjecting the crystals to thermal shock-induced strains  
[NASA-CASE-NPO-14298-1] c 76 N80-32244  
Method of growing a ribbon crystal particularly suited for facilitating automated control of ribbon width  
[NASA-CASE-NPO-14295-1] c 76 N80-32245  
Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389  
Ampoule sealing apparatus and process --- for housing a semiconductor growth charge under vacuum  
[NASA-CASE-LAR-12847-1] c 33 N83-16633  
Controlled in situ etch-back  
[NASA-CASE-NPO-15625-1] c 76 N83-20789  
Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650  
Method and apparatus for minimizing convection during crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968  
Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15529-1] c 76 N84-35113  
Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800  
Low defect, high purity crystalline layers grown by selective deposition  
[NASA-CASE-NPO-15813-1] c 76 N85-30922  
Planar oscillatory stirring apparatus  
[NASA-CASE-MFS-26002-1-CU] c 35 N86-26598  
Method for growing low defect, high purity crystalline layers utilizing lateral overgrowth of a patterned mask  
[NASA-CASE-NPO-15813-2] c 76 N87-15882  
Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286  
Apparatus and procedure to detect a liquid-solid interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713  
Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868  
Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360  
Method for investigating the formation of crystals in a transparent material  
[NASA-CASE-MFS-26008-1-CU] c 76 N88-14835  
Method and apparatus for growing crystals  
[NASA-CASE-MFS-28137-1] c 76 N88-24544  
Liquid encapsulated float zone process and apparatus  
[NASA-CASE-MFS-28144-1] c 76 N88-24545  
Hanging drop crystal growth apparatus and method  
[NASA-CASE-MFS-28206-1-SB] c 76 N88-25356  
Crystal growth apparatus  
[NASA-CASE-MFS-28182-1] c 76 N88-25357  
High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938

**CRYSTAL LATTICES**  
Apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
[NASA-CASE-MFS-23315-1] c 76 N78-24950  
Crystal cleaving machine  
[NASA-CASE-GSC-12584-1] c 37 N82-32730

**CRYSTAL OPTICS**

Optical crystal temperature gauge with fiber optic connections  
[NASA-CASE-MSC-18627-1] c 74 N82-30071

**CRYSTAL OSCILLATORS**

Microbalance including crystal oscillators for measuring contaminants in a gas system Patent  
[NASA-CASE-NPO-10144] c 14 N71-17701  
Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559  
Automatic oscillator frequency control system  
[NASA-CASE-GSC-12804-1] c 33 N86-20668

**CRYSTAL RECTIFIERS**

Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531

**CRYSTAL STRUCTURE**

Method of growing composites of the type exhibiting the Soret effect --- improved structure of eutectic alloy crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187

**CRYSTALLINITY**

Crystalline polyimides --- reinforcing fibers for high temperature composites and adhesives as well as flame retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158  
Method for growing low defect, high purity crystalline layers utilizing lateral overgrowth of a patterned mask  
[NASA-CASE-NPO-15813-2] c 76 N87-15882  
Process for developing crystallinity in linear aromatic polyimides  
[NASA-CASE-LAR-13732-1] c 27 N87-25474

**CRYSTALLIZATION**

Method of crystallization --- in gravity-free environments  
[NASA-CASE-MFS-23001-1] c 76 N77-32919  
Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286

**CRYSTALS**

Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904  
Method and apparatus for slicing crystals  
[NASA-CASE-GSC-12291-1] c 76 N80-18951  
Crystal cleaving machine  
[NASA-CASE-GSC-12584-1] c 37 N82-32730  
Workpiece positioning vise  
[NASA-CASE-GSC-12762-1] c 37 N84-28083  
Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

**CUBIC LATTICES**

Stabilized lanthanum sulphur compounds --- thermoelectric materials  
[NASA-CASE-NPO-16135-1] c 25 N83-24572

**CUES**

Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806

**CUFFS**

Logic-controlled occlusive cuff system  
[NASA-CASE-MSC-14836-1] c 52 N82-11770  
Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744

**CULTURE TECHNIQUES**

Variable angle tube holder  
[NASA-CASE-LAR-10507-1] c 11 N72-25284  
Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c 51 N75-13502  
Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c 35 N75-27330  
Electrochemical detection device --- for use in microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073  
Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698  
Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045  
Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849  
Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227  
Horizontally rotated cell culture system  
[NASA-CASE-MSC-12194-1] c 51 N89-13131  
Bio-reactor cell culture process  
[NASA-CASE-MSC-12193-1] c 51 N89-14666

**CURIE TEMPERATURE**

Manganese bismuth films with narrow transfer characteristics for Curie-point switching  
[NASA-CASE-NPO-11336-1] c 76 N79-16678

**CURING**

Reaction cured glass and glass coatings  
[NASA-CASE-ARC-11051-1] c 27 N78-32260  
Ambient cure polyimide foams --- thermal resistant foams  
[NASA-CASE-ARC-11170-1] c 27 N79-11215

Curing agent for polyepoxides and epoxy resins and composites cured therewith --- preventing carbon fiber release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260

Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039  
Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213  
Method and technique for installing light-weight, fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-16934-3] c 24 N84-16262  
Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-1] c 27 N84-27885  
Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-3] c 27 N85-21350  
Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-4] c 27 N85-21351  
Chemical control of nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-2] c 25 N85-28982  
Metal (2,4,4',4'') phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281  
Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380  
High performance mixed bisimide resins and composites based thereon  
[NASA-CASE-ARC-11538-1SB] c 24 N86-21590  
Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-2] c 27 N86-21675  
Process for curing bismaleimide resins  
[NASA-CASE-ARC-11429-4CU] c 27 N87-15304  
Method of controlling a resin curing process --- for fiber reinforced composites  
[NASA-CASE-MSC-21169-1] c 27 N87-25473  
Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894

**CURRENT AMPLIFIERS**

Multi-channel temperature measurement amplification system --- solar heating systems  
[NASA-CASE-MFS-23775-1] c 44 N82-16474  
Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421  
A dc to dc converter  
[NASA-CASE-MFS-25430-1] c 33 N84-16453

**CURRENT DENSITY**

Solid state switch  
[NASA-CASE-XNP-09228] c 09 N69-27500  
Method and apparatus for sputtering utilizing an apertured electrode and a pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c 17 N73-24569  
Stable superconducting magnet --- high current levels below critical temperature  
[NASA-CASE-MF-05373-1] c 33 N79-21264  
Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524

**CURRENT DISTRIBUTION**

Connector - Electrical  
[NASA-CASE-XLA-01288] c 09 N69-21470  
Electrostatic ion rocket engine Patent  
[NASA-CASE-XLE-02066] c 28 N71-15661  
Reversible current control apparatus Patent  
[NASA-CASE-XLA-09371] c 10 N71-18724  
Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271  
Load insensitive electrical device --- power converters for supplying direct current at one voltage from a source at another voltage  
[NASA-CASE-XER-11046-2] c 33 N74-22864

**CURRENT REGULATORS**

Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c 09 N69-24318  
Baseline stabilization system for ionization detector Patent  
[NASA-CASE-XNP-03128] c 10 N70-41991  
Magnetic core current steering commutator Patent  
[NASA-CASE-NPO-10201] c 08 N71-18694  
Increasing efficiency of switching type regulator circuits Patent  
[NASA-CASE-XMS-09352] c 09 N71-23316  
Saturation current protection apparatus for saturable core transformers Patent  
[NASA-CASE-ERC-10073] c 09 N71-24800  
Drive circuit for minimizing power consumption in inductive load Patent  
[NASA-CASE-NPO-10716] c 09 N71-24892  
Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531

## CURVATURE

- Current regulating voltage divider  
[NASA-CASE-MFS-20935] c 09 N71-34212
- Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225
- Inrush current limiter  
[NASA-CASE-GSC-11789-1] c 33 N77-14333
- Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257
- Three phase power factor controller  
[NASA-CASE-MFS-25535-1] c 33 N81-12330
- Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360
- Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126

## CURVATURE

- Spin forming tubular elbows Patent  
[NASA-CASE-XMF-01083] c 15 N71-22723
- Two degree inverted flexure  
[NASA-CASE-ARC-10345-1] c 15 N73-12488
- Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959

## CURVE FITTING

- Voltage-current characteristic simulator Patent  
[NASA-CASE-XMS-01554] c 10 N71-10578

## CURVED PANELS

- Method and apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917] c 15 N71-15597
- Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436
- Roll-up solar array Patent  
[NASA-CASE-NPO-10188] c 03 N71-20273
- Apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917-2] c 15 N71-24836
- Variable contour securing system  
[NASA-CASE-MSC-16270-1] c 37 N78-27423

## CUSHIONS

- Seat cushion to provide realistic acceleration cues to aircraft simulator pilot  
[NASA-CASE-LAR-12149-2] c 09 N79-31228
- Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394

## CUTTERS

- Aligning and positioning device Patent  
[NASA-CASE-XMS-04178] c 15 N71-22798
- Weld preparation machine Patent  
[NASA-CASE-XKS-07953] c 15 N71-26134
- Microcircuit negative cutter  
[NASA-CASE-XLA-09843] c 15 N72-27485
- Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968
- Grinding arrangement for ball nose milling cutters  
[NASA-CASE-LAR-10450-1] c 37 N74-27905
- Ophthalmic liquification pump  
[NASA-CASE-LEW-12051-1] c 52 N75-33640
- Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443
- System for slicing silicon wafers  
[NASA-CASE-NPO-14406-1] c 37 N80-29703
- Open ended tubing cutters  
[NASA-CASE-MSC-18538-1] c 37 N82-26672
- Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085
- Cutting head for ultrasonic lithotripsy  
[NASA-CASE-GSC-12944-1] c 52 N86-19885

## CUTTING

- Ellipsograph for pantograph Patent  
[NASA-CASE-XLA-03102] c 14 N71-21079
- Precision alignment apparatus for cutting a workpiece  
[NASA-CASE-LAR-11658-1] c 37 N77-14478
- Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992
- Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085

## CYANATES

- Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116

## CYCLES

- Pneumatic system for controlling and actuating pneumatic cyclic devices  
[NASA-CASE-XMS-04843] c 03 N69-21469
- Feedback shift register with states decomposed into cycles of equal length  
[NASA-CASE-NPO-11082] c 08 N72-22167

## CYCLIC ACCELERATORS

- Cyclical bi-directional rotary actuator  
[NASA-CASE-GSC-11883-1] c 37 N77-19458

## CYCLIC COMPOUNDS

- Carboranylcyclotriphosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389
- Maleimido substituted aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-1] c 23 N86-19376
- Aminophenoxycyclotriphosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469
- Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692

## CYCLIC HYDROCARBONS

- Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572
- Synthesis of 2,4,8,10-tetroxaspiro[5.5]undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187

## CYCLIC LOADS

- Automatic fatigue test temperature programmer Patent  
[NASA-CASE-XLA-02059] c 33 N71-24276
- Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877
- Material fatigue testing system  
[NASA-CASE-MFS-20673] c 14 N73-20476
- Fatigue testing a plurality of test specimens and method  
[NASA-CASE-MFS-28118-1] c 39 N87-25601

## CYCLOTRON RADIATION

- Targets for producing high purity I-123  
[NASA-CASE-LEW-10518-3] c 25 N78-27226

## CYCLOTRON RESONANCE

- Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163

## CYCLOTRON RESONANCE DEVICES

- Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163
- Gyrotron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952

## CYLINDRICAL ANTENNAS

- Variable beamwidth antenna --- with multiple beam, variable feed system  
[NASA-CASE-GSC-11862-1] c 32 N76-18295

## CYLINDRICAL BODIES

- Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c 36 N74-20009
- Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968
- Alignment and assembly tool for very large diameter cylinders  
[NASA-CASE-MFS-28001-2] c 37 N88-14360
- Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959

## CYLINDRICAL CHAMBERS

- Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091

## CYLINDRICAL SHELLS

- Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

## CYSTS

- Coupling apparatus for ultrasonic medical diagnostic system  
[NASA-CASE-NPO-13935-1] c 52 N79-14751

## CZOOCHRALSKI METHOD

- Electromigration process for the purification of molten silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105

## D

## DAMAGE

- Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18736-1] c 24 N83-13172

## DAMPERS (VALVES)

- Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490

## DAMPING

- Dynamic precession damper for spin stabilized vehicles Patent  
[NASA-CASE-XLA-01989] c 21 N70-34295
- Slosh suppressing device and method Patent  
[NASA-CASE-XMF-00658] c 12 N70-38997
- Attitude control and damping system for spacecraft Patent  
[NASA-CASE-XLA-02551] c 21 N71-21708
- Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694
- Nutation damper  
[NASA-CASE-GSC-11205-1] c 15 N73-25513

## Parasitic suppressing circuit

- [NASA-CASE-ERC-10403-1] c 10 N73-26228
- Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913
- Arrangement for damping the resonance in a laser diode  
[NASA-CASE-NPO-15980-1] c 36 N85-30305
- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788

## DATA ACQUISITION

- Analog-to-digital conversion system Patent  
[NASA-CASE-XAC-00404] c 08 N70-40125
- Position location and data collection system and method Patent  
[NASA-CASE-GSC-10083-1] c 30 N71-16090
- Analog signal integration and reconstruction system Patent  
[NASA-CASE-NPO-10344] c 10 N71-26544
- Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255
- Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c 32 N75-15854
- Contour detector and data acquisition system for the left ventricular outline  
[NASA-CASE-ARC-10365-1] c 52 N70-19724
- Adaptive data acquisition multiplexing system and method  
[NASA-CASE-MSC-21170-1] c 17 N88-24662

## DATA COLLECTION PLATFORMS

- Remote platform power conserving system  
[NASA-CASE-GSC-11182-1] c 15 N75-13007

## DATA COMPRESSION

- Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506
- Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288
- Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435
- Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171
- Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154
- Gated compressor, distortionless signal limiter  
[NASA-CASE-NPO-11820-1] c 32 N74-19788
- Space communication system for compressed data with a concatenated Reed-Solomon-Viterbi coding channel  
[NASA-CASE-NPO-13545-1] c 32 N77-12240
- Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328

## DATA CONVERTERS

- Logarithmic converter Patent  
[NASA-CASE-XLA-00471] c 08 N70-34778
- Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c 14 N70-36907
- Analog Signal to Discrete Time Interval Converter (ASDTIC)  
[NASA-CASE-ERC-10048] c 09 N72-25251
- High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176
- Image data rate converter having a drum with a fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c 35 N74-11283
- Electronic analog divider  
[NASA-CASE-LEW-11881-1] c 33 N77-17354
- Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570

## DATA CORRELATION

- Instrument for determining coincidence and elapse time between independent sources of random sequential events  
[NASA-CASE-LAR-12531-1] c 35 N83-29651
- Auto covariance computer  
[NASA-CASE-LAR-12968-1] c 60 N86-21154

## DATA LINKS

- Multichannel telemetry system  
[NASA-CASE-NPO-11572] c 07 N73-16121
- Automated attendance accounting system  
[NASA-CASE-NPO-11456] c 08 N73-26176
- Multi-computer multiple data path hardware exchange system  
[NASA-CASE-NPO-13422-1] c 60 N76-14818
- Apparatus for simulating optical transmission links  
[NASA-CASE-GSC-11877-1] c 74 N76-18913

## DATA MANAGEMENT

- Selective data segment monitoring system --- using shift registers  
[NASA-CASE-ARC-10899-1] c 60 N77-19760

## DATA PROCESSING

- Energy management system for glider type vehicle Patent  
[NASA-CASE-XFR-00756] c 02 N71-13421

Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917

Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255

Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-XNP-01068] c 10 N71-28739

Pseudonoise (PN) synchronization of data system with derivation of clock frequency from received signal for clocking receiver PN generator  
[NASA-CASE-XNP-03623] c 09 N73-28084

Image data rate converter having a drum with a fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c 35 N74-11283

Charge-coupled device data processor for an airborne imaging radar system  
[NASA-CASE-NPO-13587-1] c 32 N77-32342

Interactive color display for multispectral imagery using correlation clustering  
[NASA-CASE-MSC-16253-1] c 32 N79-20297

High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814

Real-time garbage collection for list processing  
[NASA-CASE-MSC-20964-1] c 60 N87-14863

Processing circuit with asymmetry corrector and convolutional encoder for digital data  
[NASA-CASE-MSC-20187-1] c 33 N87-25531

Laser Doppler velocimeter multiplexer interface for simultaneous measured events  
[NASA-CASE-ARC-11536-1] c 33 N89-14384

**DATA PROCESSING EQUIPMENT**

Data processor having multiple sections activated at different times by selective power coupling to the sections Patent  
[NASA-CASE-XGS-04767] c 08 N71-12494

Demodulation system Patent  
[NASA-CASE-XAC-04030] c 10 N71-19472

Rate augmented digital to analog converter Patent  
[NASA-CASE-XLA-07828] c 08 N71-27057

Variable digital processor including a register for shifting and rotating bits in either direction Patent  
[NASA-CASE-GSC-10186] c 08 N71-33110

Flexible computer accessed telemetry  
[NASA-CASE-NPO-11358] c 07 N72-25172

Versatile arithmetic unit for high speed sequential decoder  
[NASA-CASE-NPO-11371] c 08 N73-12177

Data processor with conditionally supplied clock signals  
[NASA-CASE-GSC-10975-1] c 08 N73-13187

Automated attendance accounting system  
[NASA-CASE-NPO-11456] c 08 N73-26176

Space communication system for compressed data with a concatenated Reed-Solomon-Viterbi coding channel  
[NASA-CASE-NPO-13545-1] c 32 N77-12240

High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814

Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MSC-20258-1] c 60 N84-28492

Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1CU] c 60 N86-24224

Real time pipelined system for forming the sum of products in the processing of video data  
[NASA-CASE-NPO-16462-1CU] c 60 N88-24169

**DATA PROCESSING TERMINALS**

Adaptive data acquisition multiplexing system and method  
[NASA-CASE-MSC-21170-1] c 17 N88-24662

**DATA RECORDERS**

Data compressor Patent  
[NASA-CASE-XNP-04067] c 08 N71-22707

Recorder using selective noise filter  
[NASA-CASE-ERC-10112] c 07 N72-21119

Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c 35 N74-15831

**DATA RECORDING**

System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042

Data compressor Patent  
[NASA-CASE-XNP-04067] c 08 N71-22707

Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710

Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866

On-film optical recording of camera lens settings  
[NASA-CASE-MSC-12363-1] c 14 N73-26431

Image data rate converter having a drum with a fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c 35 N74-11283

Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946

**DATA REDUCTION**

Data compression system  
[NASA-CASE-XNP-09785] c 08 N69-21928

Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202

Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506

Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288

Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435

Data compressor Patent  
[NASA-CASE-XNP-04067] c 08 N71-22707

Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171

Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154

Digital slope threshold data compressor  
[NASA-CASE-NPO-11630] c 08 N72-33172

Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1CU] c 32 N88-26541

**DATA RETRIEVAL**

Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504

Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c 32 N75-26195

**DATA SAMPLING**

Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026

Signal processing apparatus for multiplex transmission Patent  
[NASA-CASE-NPO-10388] c 07 N71-24622

Television signal processing system Patent  
[NASA-CASE-NPO-10140] c 07 N71-24742

Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171

Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328

CCD correlated quadruple sampling processor  
[NASA-CASE-NPO-14426-1] c 33 N81-27396

**DATA SMOOTHING**

Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964

Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417

**DATA STORAGE**

Data handling system based on source significance, storage availability and data received from the source Patent Application  
[NASA-CASE-XNP-04162-1] c 08 N70-34675

Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504

Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420

Event recorder Patent  
[NASA-CASE-XLA-01832] c 14 N71-21006

System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042

Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710

Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131

Dual purpose momentum wheels for spacecraft with magnetic recording  
[NASA-CASE-NPO-11481] c 21 N73-13644

Data storage, image tube type  
[NASA-CASE-MSC-14053-1] c 60 N74-12888

Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337

**DATA STRUCTURES**

Real-time garbage collection for list processing  
[NASA-CASE-MSC-20964-1] c 60 N87-14863

**DATA SYSTEMS**

Data handling system based on source significance, storage availability and data received from the source Patent Application  
[NASA-CASE-XNP-04162-1] c 08 N70-34675

Rate augmented digital to analog converter Patent  
[NASA-CASE-XLA-07828] c 08 N71-27057

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598

**DATA TRANSFER (COMPUTERS)**

Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255

**DATA TRANSMISSION**

Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333

Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent  
[NASA-CASE-XNP-00911] c 08 N70-41961

Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506

Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288

Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435

Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763

Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026

Frequency shift keying apparatus Patent  
[NASA-CASE-XGS-01537] c 07 N71-23405

Decoder system Patent  
[NASA-CASE-NPO-10118] c 07 N71-24741

Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154

Multichannel telemetry system  
[NASA-CASE-NPO-11572] c 07 N73-16121

Automated attendance accounting system  
[NASA-CASE-NPO-11456] c 08 N73-26176

System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519

Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328

Pseudo noise code and data transmission method and apparatus  
[NASA-CASE-GSC-12017-1] c 32 N77-30308

Multi-channel rotating optical interface for data transmission  
[NASA-CASE-NPO-14066-1] c 74 N79-34011

System for a displaying at a remote station data generated at a central station and for powering the remote station from the central station  
[NASA-CASE-GSC-12411-1] c 33 N81-14221

Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MSC-20258-1] c 60 N84-28492

Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863

Auxiliary data input device  
[NASA-CASE-LAR-13626-1] c 37 N87-25584

A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1CU] c 17 N88-27220

**DAWSONITE**

Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977

**DEBRIS**

Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090

**DECAY RATES**

Solar sensor having coarse and fine sensing with matched preirradiated cells and method of selecting cells Patent  
[NASA-CASE-XLA-01584] c 14 N71-23269

**DECELERATION**

Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410

Discrete local altitude sensing device Patent  
[NASA-CASE-XMS-03792] c 14 N70-41812

Hot air balloon deceleration and recovery system Patent  
[NASA-CASE-XLA-06824-2] c 02 N71-11037

Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c 14 N71-23227

**DECIMALS**

High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176

**DECISION MAKING**

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598

Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1CU] c 17 N88-28946

**DECODERS**

Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650

BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890

Encoder/decoder system for a rapidly synchronizable binary code Patent  
[NASA-CASE-NPO-10342] c 10 N71-33407



## DECODING

- Compact-bi-phase pulse coded modulation decoder  
[NASA-CASE-KSC-10834-1] c 33 N76-14371
- Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249
- Three phase full wave dc motor decoder  
[NASA-CASE-GSC-11824-1] c 33 N77-26386
- Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359
- Reed-Solomon decoder  
[NASA-CASE-NPO-15982-1] c 60 N87-21591

## DECODING

- Decoder system Patent  
[NASA-CASE-NPO-10118] c 07 N71-24741
- Versatile arithmetic unit for high speed sequential decoder  
[NASA-CASE-NPO-11371] c 08 N73-12177
- Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598
- Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c 32 N77-12239
- Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946

## DECOMMUTATORS

- Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359
- Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491

## DECONTAMINATION

- Decontamination of petroleum products Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499
- Helium refrigerator and method for decontaminating the refrigerator  
[NASA-CASE-NPO-10634] c 23 N72-25619
- Plasma cleaning device --- designed for high vacuum environments  
[NASA-CASE-MFS-22906-1] c 75 N78-27913

## DEEP SPACE NETWORK

- Low phase noise digital frequency divider  
[NASA-CASE-NPO-11569] c 10 N73-26229

## DEFECTS

- Hybrid holographic non-destructive test system  
[NASA-CASE-MFS-23114-1] c 38 N78-32447

## DEFLECTION

- Biopropellant injector  
[NASA-CASE-XNP-09461] c 28 N72-23809
- Noncontacting method for measuring angular deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138

## DEFLECTORS

- Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788
- Aircraft wheel spray drag alleviator Patent  
[NASA-CASE-XLA-01583] c 02 N70-36825
- Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173
- Exhaust flow deflector --- for ducted gas flow  
[NASA-CASE-LAR-11570-1] c 34 N76-18364
- Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343

## DEFOCUSING

- Retrodirective modulator Patent  
[NASA-CASE-GSC-10062] c 14 N71-15605

## DEFORMATION

- Arbitrarily shaped model survey system Patent  
[NASA-CASE-LAR-10098] c 32 N71-26681
- Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877
- Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500

## DEGASSING

- Degassing and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MSC-18936-1] c 35 N83-29652

## DEGREES OF FREEDOM

- Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746
- Dynamic vibration absorber Patent  
[NASA-CASE-LAR-10083-1] c 15 N71-27006
- Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c 09 N75-15662

## DEHUMIDIFICATION

- Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465

## DEHYDRATED FOOD

- Modification of the physical properties of freeze-dried rice  
[NASA-CASE-MSC-13540-1] c 05 N72-33096

## DEHYDRATION

- Process for developing crystallinity in linear aromatic polyimides  
[NASA-CASE-LAR-13732-1] c 27 N87-25474

## DEICERS

- Piezoelectric deicing device  
[NASA-CASE-LEW-13773-2] c 33 N86-20671
- Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833

## DELAMINATING

- Method of inseting predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258

## DELAY CIRCUITS

- Pulsed differential comparator circuit Patent  
[NASA-CASE-XLE-03804] c 10 N71-19471
- Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418
- Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245
- Sweep group delay measurement  
[NASA-CASE-NPO-13909-1] c 33 N78-25319
- Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179

## DELAY LINES

- A solid state acoustic variable time delay line Patent  
[NASA-CASE-ERC-10032] c 10 N71-25900

## DELTA MODULATION

- Multifunction audio digitizer --- producing direct delta and pulse code modulation  
[NASA-CASE-MSC-13855-1] c 35 N74-17885

## DELTA WINGS

- Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986

## DEMAGNETIZATION

- Tumbler system to provide random motion  
[NASA-CASE-XGS-02437] c 15 N69-21472

## DEMULATION

- Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763
- Facsimile video remodulation network  
[NASA-CASE-GSC-10185-1] c 07 N72-12081
- Quadrature demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338
- Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546

## DEMULATORS

- Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333
- Frequency shift keyed demodulator Patent  
[NASA-CASE-XGS-02889] c 07 N71-11282
- Bi-carrier demodulator with modulation Patent  
[NASA-CASE-XMF-01160] c 07 N71-11298
- Demodulation system Patent  
[NASA-CASE-XAC-04030] c 10 N71-19472
- Laser calibrator Patent  
[NASA-CASE-XLA-03410] c 16 N71-25914
- Frequency modulation demodulator threshold extension device Patent  
[NASA-CASE-MSC-12165-1] c 07 N71-33696
- Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c 33 N74-14939
- Unbalanced quadrature demodulator  
[NASA-CASE-MSC-14840-1] c 32 N77-24331
- Digital demodulator-correlator  
[NASA-CASE-NPO-13982-1] c 32 N79-14267
- Self-calibrating threshold detector  
[NASA-CASE-MSC-16370-1] c 35 N81-19427
- Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570

## DENDRITIC CRYSTALS

- Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888

## DENSIFICATION

- Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18737-1] c 24 N83-13171

## DENSITOMETERS

- Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c 14 N70-36618
- Densitometer Patent  
[NASA-CASE-XLE-00688] c 14 N70-41330
- Ultrasonic bone densitometer  
[NASA-CASE-MFS-20934-1] c 35 N75-12271

## DENSITY (MASS/VOLUME)

- Non-toxic invert analog glass compositions of high modulus  
[NASA-CASE-HQN-10328-2] c 27 N82-29454
- Method and apparatus for minimizing convection during crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968

## DENSITY DISTRIBUTION

- Apparatus for increasing ion engine beam density Patent  
[NASA-CASE-XLE-00519] c 28 N70-41576

- Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c 74 N76-20958

## DENSITY MEASUREMENT

- Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c 14 N70-36618
- Densitometer Patent  
[NASA-CASE-XLE-00688] c 14 N70-41330
- Determining particle density using known material Hugoniot curves  
[NASA-CASE-LAR-11059-1] c 76 N75-12810
- Selective image area control of X-ray film exposure density  
[NASA-CASE-NPO-13808-1] c 35 N78-15461
- Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681
- Device for determining frost depth and density  
[NASA-CASE-MFS-25754-1] c 35 N84-28018

## DENTISTRY

- Process for the preparation of brushite crystals  
[NASA-CASE-ERC-10338] c 04 N72-33072
- Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862

## DEOXYGENATION

- Electrocatalyst for oxygen reduction  
[NASA-CASE-HQN-10537-1] c 06 N72-10138

## DEPLOYMENT

- Minimech self-deploying boom mechanism  
[NASA-CASE-GSC-10566-1] c 15 N72-18477
- Deployable solar cell array  
[NASA-CASE-NPO-10883] c 31 N72-22874
- Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183
- High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272
- Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479
- Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605
- Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791
- Payload deployment method and system  
[NASA-CASE-MSC-21330-1] c 16 N88-24660

## DEPOSITION

- Means and methods of depositing thin films on substrates Patent  
[NASA-CASE-XNP-00595] c 15 N70-34967
- Monitoring deposition of films  
[NASA-CASE-MFS-20675] c 26 N73-26751
- Production of pure metals  
[NASA-CASE-LEW-10906-1] c 25 N74-30502
- Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695
- Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153
- Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826
- Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

## DEPOSITS

- Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

## DEPTH

- Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N88-23924

## DEPTH MEASUREMENT

- Device for determining frost depth and density  
[NASA-CASE-MFS-25754-1] c 35 N84-28018
- Mining volume measurement system  
[NASA-CASE-LAR-13519-1] c 35 N88-23963
- Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

## DESCENT

- Emergency descent device  
[NASA-CASE-MFS-23074-1] c 54 N77-21844

## DESIGN ANALYSIS

- Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAW-1 airfoil  
[NASA-CASE-LAR-10585-1] c 02 N76-22154
- Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717

## DESTRUCTIVE TESTS

- Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12458-1] c 44 N83-21503

**DESULFURIZING**

- Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527
- Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154
- Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246
- Crude oil desulfurization  
[NASA-CASE-NPO-14542-1] c 25 N82-23282
- Coal desulfurization by aqueous chlorination  
[NASA-CASE-NPO-14902-1] c 25 N82-29371
- Hydrodesulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743
- Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253

**DETECTION**

- Heated element fluid flow sensor Patent  
[NASA-CASE-MSC-12084-1] c 12 N71-17569
- Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573
- Metallic intrusion detector system  
[NASA-CASE-ARC-10265-1] c 10 N72-28240
- Cosmic dust or other similar outer space particles impact location detector  
[NASA-CASE-GSC-11291-1] c 25 N72-33696
- Bacteria detection instrument and method  
[NASA-CASE-GSC-11533-1] c 14 N73-13435
- Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c 36 N74-15145
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612
- Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545
- Apparatus and process for microbial detection and enumeration  
[NASA-CASE-LAR-12709-1] c 35 N82-28604
- Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139
- Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373
- Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374
- Spillage detector for liquid chromatography systems  
[NASA-CASE-MSC-20206-1] c 25 N86-27431
- Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

**DETECTORS**

- Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996
- Detector panels-micrometeoroid impact Patent  
[NASA-CASE-XLA-05906] c 31 N71-16221
- Pulse activated polarographic hydrogen detector Patent  
[NASA-CASE-XMF-06531] c 14 N71-17575
- Light position locating system Patent  
[NASA-CASE-XNP-01059] c 23 N71-21821
- Method for detecting leaks in hermetically sealed containers Patent  
[NASA-CASE-ERC-10045] c 15 N71-24910
- Precipitation detector Patent  
[NASA-CASE-XLA-02619] c 10 N71-26334
- Hydrogen fire blink detector  
[NASA-CASE-MFS-15063] c 14 N72-25412
- Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484
- Multiple pass reimagining optical system  
[NASA-CASE-ARC-10194-1] c 23 N73-20741
- Meteoroid detector  
[NASA-CASE-LAR-10483-1] c 14 N73-32327
- Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c 35 N74-21062
- Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c 35 N76-18403
- Coal-rock interface detector  
[NASA-CASE-MFS-23725-1] c 43 N79-31706
- Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767

**DETERGENTS**

- Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
[NASA-CASE-MSC-13530-2] c 23 N75-14834
- Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

**DETONATION**

- Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c 28 N74-27425

- Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863
- DETONATION WAVES**  
Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c 28 N71-22983
- DEUTERIUM**  
Analysis of hydrogen-deuterium mixtures  
[NASA-CASE-NPO-11322] c 06 N72-25146
- Deuterium pass through target --- neutron emitting target  
[NASA-CASE-LEW-11866-1] c 72 N76-15860
- DEW POINT**  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373
- DIAGNOSIS**  
Coupling apparatus for ultrasonic medical diagnostic system  
[NASA-CASE-NPO-13935-1] c 52 N79-14751
- Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783
- DIAGRAMS**  
Phototransistor  
[NASA-CASE-MFS-20407] c 09 N73-19235
- DIALYSIS**  
Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687
- DIAMETERS**  
Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959
- DIAMINES**  
Elastomeric silazane polymers and process for preparing the same Patent  
[NASA-CASE-XMF-04133] c 06 N71-20717
- Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
[NASA-CASE-XMF-03074] c 06 N71-24740
- Siloxane containing epoxide compounds  
[NASA-CASE-MFS-13994-2] c 06 N72-25148
- Preparation of polyimides from mixtures of monomeric diamines and esters of polycarboxylic acids  
[NASA-CASE-LEW-11325-1] c 06 N73-27980
- Mixed diamines for lower melting addition polyimide preparation and utilization  
[NASA-CASE-LAR-12054-1] c 27 N79-33316
- Method for preparing addition type polyimide prepreps  
[NASA-CASE-LAR-12054-2] c 27 N81-14078
- Amine terminated bisaspartamide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726
- Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727
- Polyenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-1-CU] c 27 N87-22847
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6- diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564
- Polyenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-2-CU] c 23 N89-12667
- DIAMONDS**  
Apparatus for making diamonds  
[NASA-CASE-MFS-20698] c 15 N72-20446
- Process for making diamonds  
[NASA-CASE-MFS-20698-2] c 15 N73-19457
- Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267
- DIAPHRAGMS (MECHANICS)**  
Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233
- Reinforcing means for diaphragms Patent  
[NASA-CASE-XNP-01962] c 32 N70-41370
- Self-sealing, unbonded, rocket motor nozzle closure Patent  
[NASA-CASE-XLA-02651] c 28 N70-41967
- Means for controlling rupture of shock tube diaphragms Patent  
[NASA-CASE-XAC-00731] c 11 N71-15960
- Fast opening diaphragm Patent  
[NASA-CASE-XLA-03660] c 15 N71-21060
- Inertia diaphragm pressure transducer Patent  
[NASA-CASE-XAC-02991] c 14 N71-21072
- Convoluting device for forming convolutions and the like Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811
- Differential pressure control  
[NASA-CASE-MFS-14216] c 14 N73-13418
- Fluid flow meter for measuring the rate of fluid flow in a conduit  
[NASA-CASE-MFS-28030-1] c 35 N86-25752

- Method of making a flexible diaphragm  
[NASA-CASE-MSC-20797-1] c 37 N87-23981
- DIATOMIC GASES**  
Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426
- DICHROISM**  
Dichroic plate --- as bandpass filters  
[NASA-CASE-NPO-13506-1] c 35 N76-15435
- Microwave dichroic plate  
[NASA-CASE-GSC-12171-1] c 33 N79-28416
- DICKE RADIOMETERS**  
Distributed-switch Dicke radiometers  
[NASA-CASE-GSC-12219-1] c 35 N80-18359
- DIDYMIUM**  
Didymium hydrate additive to nickel hydroxide electrodes Patent  
[NASA-CASE-XGS-03505] c 03 N71-10608
- DIELECTRIC PROPERTIES**  
Capacitive tank gaging apparatus being independent of liquid distribution  
[NASA-CASE-MFS-21629] c 14 N72-22442
- Fine particulate capture device  
[NASA-CASE-LEW-11583-1] c 35 N79-17192
- Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-GSC-12157-1-CU] c 33 N88-26596
- DIELECTRICS**  
Method for producing a solar cell having an integral protective covering  
[NASA-CASE-XGS-04531] c 03 N69-24267
- Temperature sensitive capacitor device  
[NASA-CASE-XNP-09750] c 14 N69-39937
- Space vehicle electrical system Patent  
[NASA-CASE-XMF-00517] c 03 N70-34157
- Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984
- Broadband microwave waveguide window Patent  
[NASA-CASE-XNP-08880] c 09 N71-24808
- Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135
- Quasi-optical microwave component Patent  
[NASA-CASE-ERC-10011] c 07 N71-29065
- Method of manufacturing semiconductor devices using refractory dielectrics  
[NASA-CASE-XER-08476-1] c 26 N72-17820
- Screened circuit capacitors  
[NASA-CASE-LAR-10294-1] c 26 N72-28762
- Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c 32 N74-11000
- Electrostatic measurement system --- for contact-electrifying a dielectric  
[NASA-CASE-MFS-22129-1] c 33 N75-18477
- Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994
- Preparation of dielectric coating of variable dielectric constant by plasma polymerization  
[NASA-CASE-ARC-10892-2] c 27 N79-14214
- Dielectric-loaded waveguide circulator for cryogenically cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372
- Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416
- Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355
- DIELS-ALDER REACTIONS**  
Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-6] c 25 N85-30039
- Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848
- DIENES**  
Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848
- DIES**  
Convoluting device for forming convolutions and the like Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811
- Extrusion die for refractory metals Patent  
[NASA-CASE-XLE-06773] c 15 N71-23817
- Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491
- Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276
- Pultrusion die assembly  
[NASA-CASE-LAR-13719-1] c 37 N89-12867
- DIESEL ENGINES**  
Apparatus and method for destructive removal of particles contained in flowing fluid  
[NASA-CASE-NPO-15426-1] c 35 N84-17555



## DIETS

- Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808

## DIETS

- Reduction of blood serum cholesterol  
[NASA-CASE-NPO-12119-1] c 52 N75-15270

## DIFFERENCES

- Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

## DIFFERENTIAL AMPLIFIERS

- Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c 09 N70-35440  
Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772  
Multi-channel temperature measurement amplification system --- solar heating systems  
[NASA-CASE-MFS-23775-1] c 44 N82-16474  
Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25668-1] c 33 N86-20670

## DIFFERENTIAL INTERFEROMETRY

- Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587

## DIFFERENTIAL PRESSURE

- Helium valve  
[NASA-CASE-XMS-05894-1] c 15 N69-21924  
Apparatus for ejection of an instrument cover  
[NASA-CASE-XMF-04132] c 15 N69-27502  
Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867  
Differential optoacoustic absorption detector  
[NASA-CASE-NPO-13759-1] c 74 N78-17867  
System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300

## DIFFERENTIATORS

- Window comparator  
[NASA-CASE-FRC-10090-1] c 33 N78-18308

## DIFFRACTION

- Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868

## DIFFRACTION PATTERNS

- Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215

## DIFFRACTOMETERS

- Dual purpose optical instrument capable of simultaneously acting as spectrometer and diffractometer  
[NASA-CASE-XNP-05231] c 14 N73-28491

## DIFFUSE RADIATION

- Transmitting and reflecting diffuser --- using ultraviolet grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879

## DIFFUSERS

- Application of semiconductor diffusants to solar cells by screen printing  
[NASA-CASE-LEW-12775-1] c 44 N79-11468  
Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749

## DIFFUSION

- A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148  
Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-10337] c 15 N71-24046  
Transmitting and reflecting diffuser --- for ultraviolet light  
[NASA-CASE-LAR-10385-2] c 70 N74-13436

## DIFFUSION PUMPS

- Trap for preventing diffusion pump backstreaming  
[NASA-CASE-GSC-10518-1] c 15 N72-22489  
Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c 52 N74-22771

## DIFFUSION WELDING

- Thermal compression bonding of interconnectors  
[NASA-CASE-GSC-10303] c 15 N72-22487  
Bonding of reinforced Teflon to metals  
[NASA-CASE-MFS-20482] c 15 N72-22492  
Enhanced diffusion welding  
[NASA-CASE-LEW-11388-1] c 15 N73-32358  
Method of fluxless brazing and diffusion bonding of aluminum containing components  
[NASA-CASE-MSC-14435-1] c 37 N76-18455  
Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

## DIFFUSIVITY

- Diffusely reflecting paints including polytetrafluoroethylene and method of manufacture  
[NASA-CASE-GSC-12883-1] c 27 N85-29044

## DIGITAL COMMAND SYSTEMS

- Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525  
System for maintaining a motor at a predetermined speed utilizing digital feedback means Patent  
[NASA-CASE-XMF-06892] c 09 N71-24805  
Digital filter for reducing sampling jitter in digital control systems Patent  
[NASA-CASE-NPO-11088] c 08 N71-29034

## DIGITAL COMPUTERS

- Disk pack cleaning table Patent Application  
[NASA-CASE-LAR-10590-1] c 15 N70-26819  
Binary number sorter Patent  
[NASA-CASE-NPO-10112] c 08 N71-12502  
Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505  
Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566  
Error correcting method and apparatus Patent  
[NASA-CASE-XNP-02748] c 08 N71-22749  
Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650  
Digital memory sense amplifying means Patent  
[NASA-CASE-XNP-01012] c 08 N71-28925  
Redundant memory organization Patent  
[NASA-CASE-GSC-10564] c 10 N71-29135  
High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176  
Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c 35 N75-30504  
Two-dimensional radiant energy array computers and computing devices  
[NASA-CASE-GSC-11839-1] c 60 N77-14751  
Memory device for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-2] c 60 N78-10709  
Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212  
Multicomputer communication system  
[NASA-CASE-NPO-15433-1] c 32 N85-21428  
Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333

## DIGITAL DATA

- Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent  
[NASA-CASE-XNP-00911] c 08 N70-41961  
Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420  
Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23001  
Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-XNP-01068] c 10 N71-28739  
Transition tracking bit synchronization system  
[NASA-CASE-NPO-10844] c 07 N72-20140  
Digital control and information system  
[NASA-CASE-NPO-11016] c 08 N72-31226  
Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c 62 N76-31946  
Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751  
Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733  
Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491

## DIGITAL FILTERS

- Signal detection and tracking apparatus Patent  
[NASA-CASE-XGS-03502] c 10 N71-20852  
Digital filter for reducing sampling jitter in digital control systems Patent  
[NASA-CASE-NPO-11088] c 08 N71-29034  
Counting digital filters  
[NASA-CASE-NPO-11821-1] c 08 N73-26175  
Filtering device --- removing electromagnetic noise from voice communication signals  
[NASA-CASE-MFS-22729-1] c 32 N76-21366  
Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

## DIGITAL INTEGRATORS

- Digital automatic gain amplifier  
[NASA-CASE-KSC-11008-1] c 33 N79-22373

## DIGITAL RADAR SYSTEMS

- Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297

## DIGITAL SPACECRAFT TELEVISION

- Digital television camera control system Patent  
[NASA-CASE-XNP-01472] c 14 N70-41807

## DIGITAL SYSTEMS

- Light sensitive digital aspect sensor Patent  
[NASA-CASE-XGS-00359] c 14 N70-34158  
Full binary adder Patent  
[NASA-CASE-XGS-00689] c 08 N70-34787  
Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23001  
Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c 10 N71-23033  
Noninterruptable digital counting system Patent  
[NASA-CASE-NPO-09759] c 08 N71-24891  
Digital memory in which the driving of each word location is controlled by a switch core Patent  
[NASA-CASE-XNP-01466] c 10 N71-26434  
Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c 08 N72-20176  
Digital function generator  
[NASA-CASE-NPO-11104] c 08 N72-22165  
Digital video display system using cathode ray tube  
[NASA-CASE-NPO-11342] c 09 N72-25248  
Digital slope threshold data compressor  
[NASA-CASE-NPO-11630] c 08 N72-33172  
Data processor with conditionally supplied clock signals  
[NASA-CASE-GSC-10975-1] c 08 N73-13187  
Low phase noise digital frequency divider  
[NASA-CASE NPO 11550] c 10 N73-26229  
Pseudonoise (PN) synchronization of data system with derivation of clock frequency from received signal for clocking receiver PN generator  
[NASA-CASE-XNP-03623] c 09 N73-28084  
Digital second-order phase-locked loop  
[NASA-CASE-NPO-11905-1] c 33 N74-12887  
Digital controller for a Baum folding machine --- providing automatic counting and machine shutoff  
[NASA-CASE-LAR-10688-1] c 37 N74-21056  
Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c 32 N75-21486  
Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c 33 N76-18353  
Anti-multipath digital signal detector  
[NASA-CASE-LAR-11827-1] c 32 N77-10392  
Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20289  
Open loop digital frequency multiplier  
[NASA-CASE-MSC-12709-1] c 33 N77-24375  
Bit error rate measurement above and below bit rate tracking threshold  
[NASA-CASE-MSC-12743-1] c 32 N79-10263  
Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313  
Digital demodulator-correlator  
[NASA-CASE-NPO-13982-1] c 32 N79-14267  
Memory-based frame synchronizer --- for digital communication systems  
[NASA-CASE-GSC-12430-1] c 60 N82-16747  
Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570  
Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583  
Error correction method and apparatus for electronic timepieces  
[NASA-CASE-LAR-12654-1] c 33 N83-36357  
Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264  
Antimultipath communication by injecting tone into null in signal spectrum  
[NASA-CASE-NPO-16414-1-CU] c 32 N87-25511  
Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076

## DIGITAL TECHNIQUES

- Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692  
Exclusive-Or digital logic module Patent  
[NASA-CASE-LXA-07732] c 08 N71-18751  
Horizon sensor with a plurality of fixedly positioned radiation compensated radiation sensitive detectors Patent  
[NASA-CASE-XNP-06957] c 14 N71-21088  
Digital cardiometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896  
Digital synchronizer Patent  
[NASA-CASE-NPO-10851] c 07 N71-24613  
Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215  
Rate data encoder  
[NASA-CASE-LAR-10128-1] c 08 N73-20217  
Digital communication system  
[NASA-CASE-MSC-13912-1] c 32 N74-30524

- Digital phase-locked loop  
[NASA-CASE-GSC-11623-1] c 33 N75-25040
- Digital numerically controlled oscillator  
[NASA-CASE-MSC-16747-1] c 33 N81-17349
- Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583
- Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651
- Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681
- Nanosequencer digital logic controller  
[NASA-CASE-NPO-16116-2] c 60 N88-29310
- DIGITAL TO ANALOG CONVERTERS**  
Rate augmented digital to analog converter Patent  
[NASA-CASE-XLA-07828] c 08 N71-27057
- Buffered analog converter  
[NASA-CASE-KSC-10397] c 08 N72-25206
- Digital to analog conversion apparatus  
[NASA-CASE-MSC-12458-1] c 08 N73-32081
- Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417
- Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491
- Method and apparatus for operating on compacted PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513
- DIGITAL TRANSDUCERS**  
Digital to analog conversion apparatus  
[NASA-CASE-MSC-12458-1] c 08 N73-32081
- Angle detector  
[NASA-CASE-ARC-11036-1] c 35 N78-32395
- DIISOCYANATES**  
Polyurethanes of fluorine containing polycarbonates  
[NASA-CASE-MFS-10512] c 06 N73-30099
- Polyurethanes from fluoroalkyl propyleneglycol polyethers  
[NASA-CASE-MFS-10506] c 06 N73-30100
- Fluorine containing polyurethane  
[NASA-CASE-MFS-10509] c 06 N73-30103
- DILUTION**  
Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120
- DIMENSIONAL MEASUREMENT**  
Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875
- DIMENSIONS**  
Projection system for display of parallax and perspective  
[NASA-CASE-MFS-23194-1] c 35 N78-17357
- DIODES**  
Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796
- Protection of serially connected solar cells against open circuits by the use of shunting diode Patent  
[NASA-CASE-XLE-04535] c 03 N71-23354
- Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701
- Fast response low power drain logic circuits  
[NASA-CASE-GSC-10878-1] c 10 N72-22236
- Method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c 15 N72-25457
- Temperature compensated light source using a light emitting diode  
[NASA-CASE-ARC-10467-1] c 09 N73-14214
- Wide temperature range electronic device with lead attachment  
[NASA-CASE-ERC-10224-2] c 09 N73-27150
- High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c 33 N74-22814
- Logarithmic circuit with wide dynamic range  
[NASA-CASE-GSC-12145-1] c 33 N78-32339
- Regulated high efficiency, lightweight capacitor-diode multiplier dc to dc converter  
[NASA-CASE-LEW-12791-1] c 33 N78-32341
- Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029
- Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264
- Arrangement for damping the resonance in a laser diode  
[NASA-CASE-NPO-15980-1] c 36 N85-30305
- DIPHENYL COMPOUNDS**  
Poly(carbonate-mide) polymer  
[NASA-CASE-LAR-13292-1] c 27 N86-24841
- Amine terminated bispartimide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726
- Aminophenoxycyclotriphosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469
- DIPOLE ANTENNAS**  
Circularly polarized antenna  
[NASA-CASE-ERC-10214] c 09 N72-31235
- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MSC-18606-1] c 32 N82-11336
- DIRECT CURRENT**  
Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c 03 N69-21330
- Bus voltage compensation circuit for controlling direct current motor  
[NASA-CASE-XMS-04215-1] c 09 N69-39987
- Thermionic diode switch Patent  
[NASA-CASE-NPO-10404] c 03 N71-12255
- A dc-coupled noninverting one-shot Patent  
[NASA-CASE-XNP-09450] c 10 N71-18723
- Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772
- Frequency control network for a current feedback oscillator Patent  
[NASA-CASE-GSC-10041-1] c 10 N71-19418
- Self-repeating plasma generator having communicating annular and linear arc discharge passages Patent  
[NASA-CASE-XLA-03103] c 25 N71-21693
- Positive dc to positive dc converter Patent  
[NASA-CASE-XMF-14301] c 09 N71-23188
- Positive dc to negative dc converter Patent  
[NASA-CASE-XMF-08217] c 03 N71-23239
- Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317
- Radio frequency coaxial high pass filter Patent  
[NASA-CASE-XGS-01418] c 09 N71-23573
- Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904
- Inverter with means for base current shaping for sweeping charge carriers from base region Patent  
[NASA-CASE-XGS-06226] c 10 N71-25950
- Dual polarity full wave dc motor drive Patent  
[NASA-CASE-XNP-07477] c 09 N71-26092
- A dc motor speed control system Patent  
[NASA-CASE-MFS-14610] c 09 N71-28886
- Cyclic switch Patent  
[NASA-CASE-LEW-10155-1] c 09 N71-29035
- Load-insensitive electrical device  
[NASA-CASE-XER-11046] c 09 N72-22203
- A dc to ac to dc converter having transistor synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c 09 N72-25253
- Electric motive machine including magnetic bearing  
[NASA-CASE-XGS-07805] c 15 N72-33476
- Powerplexer  
[NASA-CASE-MSC-12396-1] c 03 N73-31988
- Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c 33 N74-21851
- Load insensitive electrical device --- power converters for supplying direct current at one voltage from a source at another voltage  
[NASA-CASE-XER-11046-2] c 33 N74-22864
- Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c 32 N77-12239
- Three phase full wave dc motor decoder  
[NASA-CASE-GSC-11824-1] c 33 N77-26386
- Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338
- Direct current transformer  
[NASA-CASE-MFS-23659-1] c 33 N79-17133
- Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 38 N81-19393
- Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352
- Direct current ballast circuit for metal halide lamp  
[NASA-CASE-MSC-18407-1] c 33 N82-24427
- Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681
- Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233
- Arcjet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939
- DIRECT LIFT CONTROLS**  
Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106
- DIRECT POWER GENERATORS**  
Energy conversion apparatus Patent  
[NASA-CASE-XLE-00212] c 03 N70-34134
- Thermal pump-compressor for space use Patent  
[NASA-CASE-XLA-00377] c 33 N71-17610
- Positive dc to negative dc converter Patent  
[NASA-CASE-XMF-08217] c 03 N71-23239
- Unsaturating saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893
- Load insensitive electrical device --- power converters for supplying direct current at one voltage from a source at another voltage  
[NASA-CASE-XER-11046-2] c 33 N74-22864
- Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410
- DIRECTIONAL ANTENNAS**  
Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c 14 N70-36907
- Weatherproof helix antenna Patent  
[NASA-CASE-XKS-08485] c 07 N71-19493
- Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854
- Reversible motion drive system Patent  
[NASA-CASE-NPO-10173] c 15 N71-24696
- Variable beamwidth antenna --- with multiple beam, variable feed system  
[NASA-CASE-GSC-11862-1] c 32 N76-18295
- Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587
- DIRECTIONAL CONTROL**  
Gimbaled, partially submerged rocket nozzle Patent  
[NASA-CASE-XMF-01544] c 28 N70-34162
- Omnidirectional wheel  
[NASA-CASE-MFS-21309-1] c 37 N74-18125
- Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106
- Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132
- DIRECTIONAL SOLIDIFICATION (CRYSTALS)**  
Preparation of monotectic alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown  
[NASA-CASE-MFS-23816-1] c 26 N80-23419
- High gradient directional solidification furnace  
[NASA-CASE-MFS-25963-1] c 35 N86-20750
- DIRECTIONAL STABILITY**  
Nose gear steering system for vehicle with main skids Patent  
[NASA-CASE-XLA-01804] c 02 N70-34160
- System for imposing directional stability on a rocket-propelled vehicle  
[NASA-CASE-MFS-21311-1] c 20 N76-21275
- DIRECTIVITY**  
Multiprism collimator  
[NASA-CASE-GSC-12608-1] c 74 N83-10900
- DISCONNECT DEVICES**  
Gas actuated bolt disconnect Patent  
[NASA-CASE-XLA-00326] c 03 N70-34667
- Umbilical disconnect Patent  
[NASA-CASE-XLA-00711] c 03 N71-12258
- Remote controlled tubular disconnect Patent  
[NASA-CASE-XLA-01396] c 03 N71-12259
- Quick release connector Patent  
[NASA-CASE-XLA-01141] c 15 N71-13789
- Split nut separation system Patent  
[NASA-CASE-XNP-06914] c 15 N71-21489
- Separation slipper Patent  
[NASA-CASE-XKS-04631] c 10 N71-23663
- Duct coupling for single-handed operation Patent  
[NASA-CASE-MFS-20395] c 15 N71-24903
- Breakaway connector  
[NASA-CASE-NPO-11140] c 15 N72-17455
- Torsional disconnect unit  
[NASA-CASE-NPO-10704] c 15 N72-20445
- Frangible link  
[NASA-CASE-MSC-11849-1] c 15 N72-22488
- Quick disconnect coupling  
[NASA-CASE-NPO-11202] c 15 N72-25450
- Quick disconnect filter coupling  
[NASA-CASE-MFS-22323-1] c 37 N76-14463
- Positive isolation disconnect  
[NASA-CASE-MSC-16043-1] c 37 N79-11402
- Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609
- Slide release mechanism --- for space shuttle orbiter/external tank connection device  
[NASA-CASE-MSC-20080-1] c 37 N85-30334
- Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469
- Self-locking double retention redundant full pin release  
[NASA-CASE-NPO-16233-1] c 37 N86-20801
- Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582
- Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

## DISCONTINUITY

- Strain coupled servo control system Patent  
[NASA-CASE-XLA-08530] c 32 N71-25360
- DISCRIMINATORS**
- Phase detector assembly Patent  
[NASA-CASE-XMF-00701] c 09 N70-40272
- Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537
- Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692
- Comparator for the comparison of two binary numbers Patent  
[NASA-CASE-XNP-04819] c 08 N71-23295
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c 33 N75-19520
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2] c 33 N75-25041
- Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539
- DISPENSERS**
- Liquid aerosol dispenser  
[NASA-CASE-MFS-20829] c 12 N72-21310
- Potable water dispenser  
[NASA-CASE-MFS-21115-1] c 54 N74-12779
- Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c 37 N74-13178
- Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MFS-21163-1] c 54 N74-17853
- Automatic fluid dispenser  
[NASA-CASE-ARC-10820-1] c 35 N78-19466
- Method of dispensing reagent chemicals in space  
[NASA-CASE-LAR-13607-1-CU] c 29 N88-29048
- DISPENSING**
- Shock tube powder dispersing apparatus Patent  
[NASA-CASE-XLE-04946] c 17 N71-24911
- Powder fed sheared dispersal particle generator  
[NASA-CASE-LAR-12785-1] c 37 N84-16561
- DISPERSIONS**
- Preparation of alkali metal dispersions  
[NASA-CASE-XNP-08876] c 17 N73-28573
- DISPLACEMENT**
- Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126
- DISPLACEMENT MEASUREMENT**
- Null-type vacuum microbalance Patent  
[NASA-CASE-XAC-00472] c 15 N70-40180
- Self-calibrating displacement transducer Patent  
[NASA-CASE-XLA-00781] c 09 N71-22999
- Angular displacement indicating gas bearing support system Patent  
[NASA-CASE-XLA-09346] c 15 N71-28740
- Apparatus for remote measurement of displacement of marks on a specimen undergoing a tensile test  
[NASA-CASE-NPO-10778] c 14 N72-11364
- Miniature muscle displacement transducer  
[NASA-CASE-NPO-13519-1] c 33 N76-19338
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361
- DISPLAY DEVICES**
- Integrated time shared instrumentation display Patent  
[NASA-CASE-XLA-01952] c 08 N71-12507
- Energy management system for glider type vehicle Patent  
[NASA-CASE-XFR-00756] c 02 N71-13421
- Fluidic-thermochromic display device Patent  
[NASA-CASE-ERC-10031] c 12 N71-18603
- Display for binary characters Patent  
[NASA-CASE-XGS-04987] c 08 N71-20571
- Optical projector system Patent  
[NASA-CASE-XNP-03853] c 23 N71-21882
- Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175
- BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890
- Noninterruptible digital counting system Patent  
[NASA-CASE-XNP-09759] c 08 N71-24891
- Analog signal integration and reconstruction system Patent  
[NASA-CASE-NPO-10344] c 10 N71-26544
- Plasma fluidic hybrid display Patent  
[NASA-CASE-ERC-10100] c 09 N71-33519
- System for quantizing graphic displays  
[NASA-CASE-NPO-10745] c 08 N72-22164
- Digital video display system using cathode ray tube  
[NASA-CASE-NPO-11342] c 09 N72-25248
- Scientific experiment flexible mount  
[NASA-CASE-MSC-12372-1] c 31 N72-25842
- Display system  
[NASA-CASE-ERC-10350] c 14 N73-20474

- Transparent switchboard  
[NASA-CASE-MSC-13746-1] c 10 N73-32143
- Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c 35 N74-15831
- Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813
- X-Y alphanumeric character generator for oscilloscopes  
[NASA-CASE-GSC-11582-1] c 33 N75-19517
- Binocular device for displaying numerical information in field of view  
[NASA-CASE-LAR-11782-1] c 74 N77-20882
- Particle parameter analyzing system --- x-y plotter circuits and display  
[NASA-CASE-XLE-06094] c 33 N78-17293
- Projection system for display of parallax and perspective  
[NASA-CASE-MFS-23194-1] c 35 N78-17357
- Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083
- Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580
- System and method for obtaining wide screen Schlieren photographs  
[NASA-CASE-NPO-14174-1] c 74 N79-20856
- Chromatically corrected virtual image visual display --- reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185
- System for a displaying at a remote station data generated at a central station and for powering the remote station from the central station  
[NASA-CASE-GSC-12411-1] c 33 N81-14221
- System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075
- Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212
- Synchronized voltage contrast display analysis system  
[NASA-CASE-NPO-14567-1] c 33 N83-18996
- Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920
- Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373
- Aircraft liftmeter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280
- Simulator scene display evaluation device  
[NASA-CASE-ARC-11504-1] c 09 N86-32447
- Large TV display system  
[NASA-CASE-NPO-16932-1CU] c 33 N87-15413
- Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678
- Flat-panel, full-color, electroluminescent display  
[NASA-CASE-LAR-13407-1] c 33 N87-28831
- Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372
- DISSIPATION**
- Voltage regulator with plural parallel power source sections Patent  
[NASA-CASE-GSC-10891-1] c 10 N71-26626
- Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N84-32398
- DISSOCIATION**
- Solar hydrogen generator  
[NASA-CASE-LAR-11361-1] c 44 N77-22607
- DISSOLVING**
- Zero gravity liquid mixer  
[NASA-CASE-LAR-10195-1] c 15 N73-19458
- DISTANCE MEASURING EQUIPMENT**
- Binary coded sequential acquisition ranging system  
[NASA-CASE-NPO-11194] c 08 N72-25209
- Determining distance to lightning strokes from a single station  
[NASA-CASE-KSC-10698] c 07 N73-20175
- Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519
- Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681
- Rotary target V-block  
[NASA-CASE-LAR-12007-3] c 35 N84-16523
- Method and apparatus for measuring distance  
[NASA-CASE-MSC-20912-1] c 32 N88-26568
- DISTILLATION EQUIPMENT**
- Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086
- Method and apparatus for distillation of liquids Patent  
[NASA-CASE-XNP-08124] c 15 N71-27184
- Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c 06 N73-13129
- DISTRIBUTED AMPLIFIERS**
- Cascaded complementary pair broadband transistor amplifiers Patent  
[NASA-CASE-NPO-10003] c 10 N71-26415
- DISTRIBUTED PROCESSING**
- Distributed multipoint memory architecture  
[NASA-CASE-NPO-15342-1] c 60 N83-32342
- DISTRIBUTION (PROPERTY)**
- Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175
- DISTRIBUTORS**
- High voltage distributor  
[NASA-CASE-GSC-11849-1] c 33 N76-16332
- DIVERGENT NOZZLES**
- Jet exhaust noise suppressor  
[NASA-CASE-LEW-11286-1] c 07 N74-27490
- DIVERTERS**
- Flow diverter value and flow diversion method  
[NASA-CASE-HQN-00573-1] c 37 N79-33468
- DIVIDERS**
- A synchronous binary array divider  
[NASA-CASE-ERC-10180-1] c 60 N74-20836
- DOCUMENT STORAGE**
- File card marker Patent  
[NASA-CASE-XLA-02705] c 08 N71-15908
- DOMES (STRUCTURAL FORMS)**
- Airborne tracking sunphotometer apparatus and system  
[NASA-CASE-ARC-11622-1] c 44 N88-14492
- DOORS**
- Emergency escape system Patent  
[NASA-CASE-MSC-12086-1] c 05 N71-12345
- CAM controlled retractable door latch  
[NASA-CASE-MSC-20304-1] c 37 N82-31690
- DOSES**
- Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875
- DOPPLER EFFECT**
- Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978
- Laser Doppler system for measuring three dimensional vector velocity Patent  
[NASA-CASE-MFS-20386] c 21 N71-19212
- Doppler compensation by shifting transmitted object frequency within limits  
[NASA-CASE-GSC-10087-4] c 07 N73-20174
- Doppler shift system --- system for measuring velocities of radiating particles  
[NASA-CASE-HQN-10740-1] c 72 N74-19310
- Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510
- Servomechanism for Doppler shift compensation in optical correlator for synthetic aperture radar  
[NASA-CASE-NPO-14998-1] c 32 N83-18975
- Vibration-free Raman Doppler velocimeter  
[NASA-CASE-LAR-13268-1] c 35 N87-14669
- Doppler-corrected differential detection system  
[NASA-CASE-NPO-16987-1-CU] c 32 N88-30001
- DOPPLER RADAR**
- Cooperative Doppler radar system Patent  
[NASA-CASE-LAR-10403] c 21 N71-11766
- Doppler radar having phase modulation of both transmitted and reflected return signals  
[NASA-CASE-MSC-18675-1] c 32 N84-22820
- Doppler radar with multiphase modulation of transmitted and reflected signal  
[NASA-CASE-MSC-18808-1] c 32 N88-23923
- DOSIMETERS**
- Dosimeter for high levels of absorbed radiation Patent  
[NASA-CASE-XLA-03645] c 14 N71-20430
- Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311
- DOWNLINKING**
- A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220
- DRAG CHUTES**
- Flexible wing deployment device Patent  
[NASA-CASE-XLA-01220] c 02 N70-41863
- Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c 02 N74-10034
- Extended moment arm anti-spin device  
[NASA-CASE-LAR-12979-1] c 05 N85-21147
- DRAG MEASUREMENT**
- Air frame drag balance Patent  
[NASA-CASE-XLA-00113] c 14 N70-33386
- Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-00755] c 01 N71-13410
- Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-05828] c 01 N71-13411

Impact energy absorber Patent  
[NASA-CASE-XLA-01530] c 14 N71-23092  
System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300  
Skin friction measuring device for aircraft  
[NASA-CASE-FRC-11029-1] c 06 N81-17057

**DRAG REDUCTION**  
Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c 02 N70-34856  
Aircraft wheel spray drag alleviator Patent  
[NASA-CASE-XLA-01583] c 02 N70-36825  
Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288  
Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194  
Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575  
Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071  
Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29789  
Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232  
Passive venting technique for shallow cavities  
[NASA-CASE-LAR-13875-1] c 05 N89-14233

**DRIFT (INSTRUMENTATION)**  
Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986  
Radiation direction detector including means for compensating for photocell aging Patent  
[NASA-CASE-XLA-00183] c 14 N70-40239  
Failure detection and control means for improved drift performance of a gimbaled platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175

**DRILL BITS**  
Sample collecting impact bit Patent  
[NASA-CASE-XNP-01412] c 15 N70-42034  
Hole cutter --- drill bits and rotating shaft  
[NASA-CASE-MFS-22649-1] c 37 N75-25186

**DRILLING**  
Method for milling and drilling glass  
[NASA-CASE-GSC-12636-1] c 31 N83-27058  
Method for machining holes in composite materials  
[NASA-CASE-MFS-28044-1] c 31 N87-25491

**DRILLS**  
Rock drill for recovering samples  
[NASA-CASE-XNP-07478] c 14 N69-21923  
Soil penetrometer  
[NASA-CASE-XNP-05530] c 14 N73-32321

**DRIVES**  
Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c 10 N71-27126

**DROP TOWERS**  
Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442  
Sphere forming method and apparatus  
[NASA-CASE-NPO-15070-1] c 31 N83-35176

**DROPS (LIQUIDS)**  
Droplet monitoring probe  
[NASA-CASE-NPO-10985] c 14 N73-20478  
Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846  
Hanging drop crystal growth apparatus and method  
[NASA-CASE-MFS-28206-1-SB] c 76 N88-25356  
Crystal growth apparatus  
[NASA-CASE-MFS-28182-1] c 76 N88-25357

**DRUGS**  
Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086

**DRYING**  
Drying apparatus for photographic sheet material  
[NASA-CASE-GSC-11074-1] c 14 N73-28489  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484

**DRYING APPARATUS**  
Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080

**DUCTED FANS**  
Cam-operated pitch-change apparatus  
[NASA-CASE-LEW-13050-1] c 07 N79-14095

**DUCTILITY**  
Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540

**DUCTS**  
Duct coupling for single-handed operation Patent  
[NASA-CASE-MFS-20395] c 15 N71-24903  
Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c 37 N76-14460

Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
[NASA-CASE-GSC-12191-1] c 31 N80-32583  
Multi-path peristaltic pump  
[NASA-CASE-MSC-20907-1] c 37 N87-18818

**DURABILITY**  
Belt for transmitting power from a cogged driving member to a cogged driven member  
[NASA-CASE-GSC-12289-1] c 37 N80-32717

**DUST COLLECTORS**  
Disk pack cleaning table Patent Application  
[NASA-CASE-LAR-10590-1] c 15 N70-26819  
Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

**DYE LASERS**  
Infrared tunable laser  
[NASA-CASE-ARC-10463-1] c 09 N73-32111  
Laser head for simultaneous optical pumping of several dye lasers --- with single flash lamp  
[NASA-CASE-LAR-11341-1] c 36 N75-19655

**DYES**  
Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170  
Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432

**DYNAMIC CHARACTERISTICS**  
Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c 14 N70-41681  
Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c 16 N73-33397  
Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082

**DYNAMIC CONTROL**  
Motion restraining device  
[NASA-CASE-NPO-13619-1] c 37 N78-16369  
System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516

**DYNAMIC LOADS**  
Multilegged support system Patent  
[NASA-CASE-XLA-01326] c 11 N71-21481  
Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878  
Impact monitoring apparatus  
[NASA-CASE-MSC-15626-1] c 14 N72-25411  
Ultrasonic method and apparatus for determining crack opening load  
[NASA-CASE-LAR-13889-1] c 39 N88-30160

**DYNAMIC MODULUS OF ELASTICITY**  
Apparatus for positioning and loading a test specimen Patent  
[NASA-CASE-XLE-01300] c 15 N70-41993

**DYNAMIC RESPONSE**  
Impact simulator Patent  
[NASA-CASE-XLA-00493] c 11 N70-34786  
Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387  
Response analyzers for sensors Patent  
[NASA-CASE-MFS-11204] c 14 N71-29134  
Cam-operated pitch-change apparatus  
[NASA-CASE-LEW-13050-1] c 07 N79-14095

**DYNAMIC STRUCTURAL ANALYSIS**  
Method and apparatus for measuring the damping characteristics of a structure  
[NASA-CASE-ARC-10154-1] c 14 N72-22440

**DYNAMIC TESTS**  
Support apparatus for dynamic testing Patent  
[NASA-CASE-XMF-01772] c 11 N70-41677  
Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604

**DYNAMICAL SYSTEMS**  
Method of forming dynamic membrane on stainless steel support  
[NASA-CASE-MSC-18172-3] c 31 N88-29052  
Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

**DYNAMOMETERS**  
Thrust dynamometer Patent  
[NASA-CASE-XLE-00702] c 14 N70-40203  
Thrust dynamometer Patent  
[NASA-CASE-XLE-05260] c 14 N71-20429

## E

**EAR**  
Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent  
[NASA-CASE-XAC-05422] c 04 N71-23185

**EARPHONES**  
Multi-adjustable headband --- for headsets  
[NASA-CASE-KSC-11322-1] c 54 N87-25765

**EARTH ATMOSPHERE**  
Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991

**EARTH CRUST**  
Seismic vibration source  
[NASA-CASE-NPO-14112-1] c 46 N79-22679

**EARTH IONOSPHERE**  
Ionospheric battery Patent  
[NASA-CASE-XGS-01593] c 03 N70-35408

**EARTH ORBITS**  
High temperature furnace for melting materials in space  
[NASA-CASE-MFS-20710] c 11 N72-23215  
A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth  
[NASA-CASE-MSC-12391] c 30 N73-12884

**ECCENTRICS**  
Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370

**ECHELLE GRATINGS**  
Cooled echelle grating spectrometer --- for space telescope applications  
[NASA-CASE-NPO-14372-1] c 35 N80-26635

**ECHO SOUNDING**  
Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

**ECHOES**  
Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580  
Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376

**EDDY CURRENTS**  
Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698

**EDGES**  
Method of forming a sharp edge on an optical device  
[NASA-CASE-GSC-12348-1] c 74 N80-24149

**EDUCATION**  
Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-2] c 52 N89-16256

**EFFICIENCY**  
Recovery of radiation damaged solar cells through thermal annealing  
[NASA-CASE-XGS-04047-2] c 03 N72-11062  
High efficiency multifrequency feed  
[NASA-CASE-GSC-11909] c 32 N74-20863

**EFFLUENTS**  
Vortex generator for controlling the dispersion of effluents in a flowing liquid  
[NASA-CASE-LAR-12045-1] c 34 N77-24423  
Fluid sample collection and distribution system --- qualitative analysis of aqueous samples from several points  
[NASA-CASE-MSC-16841-1] c 34 N79-24285

**EGRESS**  
Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992  
Emergency egress fixed rocket package  
[NASA-CASE-MSC-21332-1] c 03 N89-11724

**EJECTION**  
Apparatus for ejection of an instrument cover  
[NASA-CASE-XMF-04132] c 15 N69-27502

**EJECTION SEATS**  
Device for separating occupant from an ejection seat Patent  
[NASA-CASE-XMS-04625] c 05 N71-20718

**EJECTORS**  
Ejection unit Patent  
[NASA-CASE-XNP-00676] c 15 N70-38996  
Device for separating occupant from an ejection seat Patent  
[NASA-CASE-XMS-04625] c 05 N71-20718  
Latch/ejector unit Patent  
[NASA-CASE-XLA-03538] c 15 N71-24897  
Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609  
Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749  
Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469

## ELASTIC BODIES

- Belleville spring assembly with elastic guides  
[NASA-CASE-XNP-09452] c 15 N69-27504  
Means for suppressing or attenuating bending motion of elastic bodies Patent  
[NASA-CASE-XAC-05632] c 32 N71-23971  
Device for measuring tensile forces  
[NASA-CASE-MFS-21728-1] c 35 N74-27865

## ELASTIC DEFORMATION

- Instrument for measuring torsional creep and recovery Patent  
[NASA-CASE-XLE-01481] c 14 N71-10781  
Means for suppressing or attenuating bending motion of elastic bodies Patent  
[NASA-CASE-XAC-05632] c 32 N71-23971

## ELASTIC MEDIA

- Miniature vibration isolator Patent  
[NASA-CASE-XLA-01019] c 15 N70-40156

## ELASTIC PROPERTIES

- Elastic universal joint Patent  
[NASA-CASE-XNP-00416] c 15 N70-36947  
Deformable vehicle wheel Patent  
[NASA-CASE-MFS-20400] c 31 N71-18611  
Threadless fastener apparatus Patent  
[NASA-CASE-XFR-05302] c 15 N71-23254  
Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c 06 N73-33076  
Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615

## ELASTIC SHEETS

- Method for forming plastic materials Patent  
[NASA-CASE-XMS-05516] c 15 N71-17803

## ELASTOMERS

- Metal valve pintle with encapsulated elastomeric body Patent  
[NASA-CASE-MSC-12116-1] c 15 N71-17648  
Extensometer Patent  
[NASA-CASE-XMF-04680] c 15 N71-19489  
Elastomeric silazane polymers and process for preparing the same Patent  
[NASA-CASE-XMF-04133] c 06 N71-20717  
Bonded elastomeric seal for electrochemical cells Patent  
[NASA-CASE-XGS-02631] c 03 N71-23006  
Conductive elastomeric extensometer  
[NASA-CASE-MFS-21049-1] c 52 N74-27864  
Vacuum pressure molding technique  
[NASA-CASE-LAR-10073-1] c 37 N76-24575  
Method of making hollow elastomeric bodies  
[NASA-CASE-NPO-13535-1] c 37 N76-31524  
Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262  
Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514  
Prepolymer dianhydrides  
[NASA-CASE-NPO-13899-1] c 27 N80-32515  
Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104  
Process for the preparation of fluorine containing crosslinked elastomeric polytriazine and product so produced  
[NASA-CASE-ARC-11248-1] c 27 N81-17259  
The 1,2,4-oxadiazole elastomers --- heat resistant polymers  
[NASA-CASE-ARC-11253-1] c 27 N81-17262  
Bifunctional monomers having terminal oxime and cyano or amide groups  
[NASA-CASE-ARC-11253-3] c 27 N81-24256  
Circumferential shaft seal  
[NASA-CASE-LEW-12119-2] c 37 N81-26447  
Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238  
Preparation of crosslinked 1,2,4-oxadiazole polymer  
[NASA-CASE-ARC-11253-2] c 27 N82-24338  
Method of bonding plasticized elastomer to metal and articles produced thereby  
[NASA-CASE-MFS-25181-1] c 27 N82-24340  
Elastomer toughened polyimide adhesives  
[NASA-CASE-LAR-12775-1] c 27 N83-28240  
Elastomer-modified phosphorus-containing imide resins  
[NASA-CASE-ARC-11400-1] c 27 N84-14322  
Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744  
Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349

- Perfluoro (Imidoylamidine) diamidines  
[NASA-CASE-ARC-11402-3] c 23 N86-21582  
Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833  
Coaxial cable connector  
[NASA-CASE-NPO-16764-1-CU] c 33 N88-14270

## ELBOW (ANATOMY)

- Elbow and knee joint for hard space suits  
[NASA-CASE-ARC-11610-1] c 54 N86-28619

## ELECTRIC ARCS

- Electric-arc heater Patent  
[NASA-CASE-XLA-00330] c 33 N70-34540  
Electric arc welding Patent  
[NASA-CASE-XMF-00392] c 15 N70-34814  
Electric arc driven wind tunnel Patent  
[NASA-CASE-XMF-00411] c 11 N70-36913  
Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c 25 N70-41628  
Electric arc apparatus Patent  
[NASA-CASE-XAC-01677] c 09 N71-20816  
Arc electrode of graphite with ball tip Patent  
[NASA-CASE-XLE-04788] c 09 N71-22987  
High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c 33 N74-12913  
Electric arc light source having undercut recessed anode  
[NASA-CASE-ARC-10266-1] c 33 N75-29318  
Welding torch with arc light reflector  
[NASA-CASE-MFS-29134-1] c 74 N87-17493  
Welding torch gas cup extension  
[NASA-CASE-MFS-29252-1] c 37 N88-23980

## ELECTRIC AUTOMOBILES

- Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422

## ELECTRIC BATTERIES

- Spacecraft battery seals  
[NASA-CASE-XGS-03864] c 15 N69-24320  
Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051  
Method and apparatus for battery charge control Patent  
[NASA-CASE-XGS-05432] c 03 N71-19438  
Coulometer and third electrode battery charging circuit Patent  
[NASA-CASE-GSC-10487-1] c 03 N71-24719  
Heat activated cell Patent  
[NASA-CASE-LEW-11359] c 03 N71-28579  
Synchronous orbit battery cyclor  
[NASA-CASE-GSC-11211-1] c 03 N72-25020  
Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
[NASA-CASE-NPO-11806-1] c 44 N74-19693  
Battery testing device --- for testing cells of multiple-cell battery  
[NASA-CASE-MFS-20761-1] c 44 N74-27519  
Rapid activation and checkout device for batteries  
[NASA-CASE-MFS-22749-1] c 44 N76-14601  
Zinc-halide battery with molten electrolyte  
[NASA-CASE-NPO-11961-1] c 44 N76-18643  
Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664  
Voltage regulator for battery power source --- using a bipolar transistor  
[NASA-CASE-FRC-10116-1] c 33 N79-23345  
In-situ cross linking of polyvinyl alcohol --- application to battery separator films  
[NASA-CASE-LEW-13135-2] c 27 N81-24257  
State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596

## ELECTRIC BRIDGES

- Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200  
Infinite range electronics gain control circuit  
[NASA-CASE-GSC-10786-1] c 10 N72-28241  
Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2] c 33 N75-25041  
Germanium coated microbridge and method  
[NASA-CASE-MFS-23274-1] c 33 N78-13320  
Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494

## ELECTRIC CELLS

- Connector strips-positive, negative and T tabs  
[NASA-CASE-XGS-01395] c 03 N69-21539  
Heat activated cell with alkali anode and alkali salt electrolyte Patent  
[NASA-CASE-LEW-11358] c 03 N71-26084  
Ion-exchange membrane with platinum electrode assembly Patent  
[NASA-CASE-XMS-02063] c 03 N71-29044

## ELECTRIC CHARGE

- Method and device for determining battery state of charge Patent  
[NASA-CASE-NPO-10194] c 03 N71-20407

- Automatic battery charger Patent  
[NASA-CASE-XNP-04758] c 03 N71-24605  
FET charge sensor and voltage probe  
[NASA-CASE-NPO-16045-1] c 76 N87-13313

## ELECTRIC CHOPPERS

- Monostable multivibrator  
[NASA-CASE-GSC-10082-1] c 10 N72-20221  
Transformer regulated self-stabilizing chopper  
[NASA-CASE-XGS-09186] c 33 N78-17295

## ELECTRIC COILS

- Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462  
Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017  
Phase sensitive guidance sensor for wire-following vehicles  
[NASA-CASE-NPO-15341-1] c 35 N84-33769

## ELECTRIC CONDUCTORS

- Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c 09 N69-21542  
Solar cell matrix Patent  
[NASA-CASE-NPO-10821] c 03 N71-19545  
Electrical switching device Patent  
[NASA-CASE-NPO-10037] c 09 N71-19610  
Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618  
Electrical insulating layer process  
[NASA-CASE-LEW-10489-1] c 15 N72-25447  
Injector for use in high voltage isolators for liquid feed lines  
[NASA-CASE-NPO-11377] c 15 N73-27406  
Solar cell grid patterns  
[NASA-CASE-NPO-13087-2] c 44 N76-31666  
Velocity measurement system  
[NASA-CASE-MFS-23363-1] c 35 N78-32396  
Shielded conductor cable system  
[NASA-CASE-MSC-12745-1] c 33 N81-27397

## ELECTRIC CONNECTORS

- Connector - Electrical  
[NASA-CASE-XLA-01288] c 09 N69-21470  
Test fixture for pellet-like electrical elements  
[NASA-CASE-XNP-06032] c 09 N69-21926  
Coupling device  
[NASA-CASE-XMS-07846-1] c 09 N69-21927  
Electrical feed-through connection for printed circuit boards and printed cable  
[NASA-CASE-XMF-01483] c 14 N69-27431  
Electrical connector pin with wiping action  
[NASA-CASE-XMF-04238] c 09 N69-39734  
Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c 09 N70-20737  
Electrical connector for flat cables Patent  
[NASA-CASE-XMF-00324] c 09 N70-34596  
Printed cable connector Patent  
[NASA-CASE-XMF-00369] c 09 N70-36494  
Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960  
Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986  
Coaxial cable connector Patent  
[NASA-CASE-XNP-04732] c 09 N71-20851  
Connector internal force gauge Patent  
[NASA-CASE-XNP-03918] c 14 N71-23087  
Protection of serially connected solar cells against open circuits by the use of shunting diode Patent  
[NASA-CASE-XLE-04535] c 03 N71-23354  
Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783  
Breakaway connector  
[NASA-CASE-NPO-11140] c 15 N72-17455  
Electrical connector  
[NASA-CASE-NPO-10694] c 09 N72-20200  
Radio frequency filter device  
[NASA-CASE-XLA-02609] c 09 N72-25256  
Use of unilluminated solar cells as shunt diodes for a solar array  
[NASA-CASE-GSC-10344-1] c 03 N72-27053  
Electrical connector  
[NASA-CASE-MFS-20757] c 09 N72-28225  
Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MFS-22133-1] c 33 N74-26977  
Connector --- for connecting circuits on different layers of multilayer printed circuit boards  
[NASA-CASE-LAR-11709-1] c 37 N76-27567  
Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738  
Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-KSC-11030-1] c 52 N77-25772  
Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359

Electrical self-aligning connector --- orbital service vehicles  
 [NASA-CASE-MFS-25211-2] c 33 N84-14423  
 Four-terminal electrical testing device --- initiator bridgewire resistance  
 [NASA-CASE-MSC-21166-1] c 35 N87-25555  
 Coaxial cable connector  
 [NASA-CASE-NPO-16764-1-CU] c 33 N88-14270

**ELECTRIC CONTACTS**  
 Solid state switch  
 [NASA-CASE-XNP-09228] c 09 N69-27500  
 Deflective rod switch with elastic support and sealing means Patent  
 [NASA-CASE-XNP-09808] c 09 N71-12518  
 Method of making electrical contact on silicon solar cell and resultant product Patent  
 [NASA-CASE-XLE-04787] c 03 N71-20492  
 Continuous turning slip ring assembly Patent  
 [NASA-CASE-XMF-01049] c 15 N71-23049  
 Electrical connector  
 [NASA-CASE-MFS-20757] c 09 N72-28225  
 Electrostatic measurement system --- for contact-electrifying a dielectric  
 [NASA-CASE-MFS-22129-1] c 33 N75-18477  
 Process for preparing liquid metal electrical contact device  
 [NASA-CASE-LEW-11978-1] c 33 N77-26385  
 Non-contacting power transfer device  
 [NASA-CASE-GSC-12595-1] c 33 N82-24422  
 Solar cell having improved back surface reflector  
 [NASA-CASE-LEW-13620-1] c 44 N83-13579  
 Screen printed interdigitated back contact solar cell  
 [NASA-CASE-LEW-13414-1] c 44 N85-20530  
 Cross-contact chain  
 [NASA-CASE-NPO-16784-1] c 33 N87-10231

**ELECTRIC CONTROL**  
 Increasing efficiency of switching type regulator circuits Patent  
 [NASA-CASE-XMS-09352] c 09 N71-23316  
 Adjustable indicating device for load position  
 [NASA-CASE-MFS-28008-1] c 35 N85-20300

**ELECTRIC CURRENT**  
 Didymium hydrate additive to nickel hydroxide electrodes Patent  
 [NASA-CASE-XGS-03505] c 03 N71-10608  
 Electrical load protection device Patent  
 [NASA-CASE-MSC-12135-1] c 09 N71-12526  
 Micro current measuring device using plural logarithmic response heated filamentary type diodes Patent  
 [NASA-CASE-XNP-00384] c 09 N71-13530  
 Connector internal force gauge Patent  
 [NASA-CASE-XNP-03918] c 14 N71-23087  
 Pulse modulator providing fast rise and fall times Patent  
 [NASA-CASE-XMS-04919] c 09 N71-23270  
 Polarity sensitive circuit Patent  
 [NASA-CASE-XNP-00952] c 10 N71-23271  
 Protection of serially connected solar cells against open circuits by the use of shunting diode Patent  
 [NASA-CASE-XLE-04535] c 03 N71-23354  
 Color television systems using a single gun color cathode ray tube Patent  
 [NASA-CASE-ERC-10098] c 09 N71-28618  
 Current dependent filter inductance  
 [NASA-CASE-ERC-10139] c 09 N72-17154  
 High voltage transistor amplifier with constant current load  
 [NASA-CASE-NPO-11023] c 09 N72-17155  
 Current steering commutator  
 [NASA-CASE-NPO-10743] c 08 N72-21199  
 Saturation current protection apparatus for saturable core transformers  
 [NASA-CASE-ERC-10075-2] c 09 N72-22196  
 Thermal to electrical power conversion system with solid-state switches with Seebeck effect compensation  
 [NASA-CASE-NPO-11388] c 03 N72-23048  
 Load current sensor for a series pulse width modulated power supply  
 [NASA-CASE-GSC-10656-1] c 09 N72-25249  
 Method and apparatus for limiting field emission current  
 [NASA-CASE-ERC-10015-2] c 10 N72-27246  
 Deposition apparatus  
 [NASA-CASE-LAR-10541-1] c 15 N72-32487  
 Lightning current measuring systems  
 [NASA-CASE-KSC-10807-1] c 33 N75-26246  
 Overload protection system for power inverter  
 [NASA-CASE-NPO-13872-1] c 33 N78-10377  
 Shunt regulation electric power system  
 [NASA-CASE-GSC-10135] c 33 N78-17296  
 Lightning current waveform measuring system  
 [NASA-CASE-KSC-11018-1] c 33 N79-10337  
 Electroexplosive device  
 [NASA-CASE-NPO-13858-1] c 28 N79-11231  
 Remote lightning monitor system  
 [NASA-CASE-KSC-11031-1] c 33 N79-11315

Lightning current detector  
 [NASA-CASE-KSC-11057-1] c 33 N79-14305  
 Driver for solar cell I-V characteristic plots  
 [NASA-CASE-NPO-14096-1] c 44 N80-18551  
 Electrical power generating system --- for windpowered generation  
 [NASA-CASE-MFS-24368-3] c 33 N81-22280  
 Trace water sensor  
 [NASA-CASE-NPO-15722-1] c 35 N85-29212  
 Magnetic spin reduction system for free spinning objects  
 [NASA-CASE-MFS-25966-1] c 16 N86-26352  
 Four quadrant control circuit for a brushless three-phase dc motor  
 [NASA-CASE-MFS-28080-1] c 33 N87-21233  
 Electro-expulsive separation system  
 [NASA-CASE-ARC-11613-1] c 33 N87-28833

**ELECTRIC DISCHARGES**  
 Electrical discharge apparatus for forming Patent  
 [NASA-CASE-XMF-00375] c 15 N70-34249  
 High voltage pulse generator Patent  
 [NASA-CASE-MSC-12178-1] c 09 N71-13518  
 Pulse generating circuit employing switch means on ends of delay line for alternately charging and discharging same Patent  
 [NASA-CASE-XNP-00745] c 10 N71-28960  
 Rapidly pulsed, high intensity, incoherent light source  
 [NASA-CASE-XLE-2529-3] c 33 N74-20859  
 Voltage feed through apparatus having reduced partial discharge  
 [NASA-CASE-GSC-12347-1] c 33 N80-18286  
 Electrostatic discharge test apparatus  
 [NASA-CASE-MSC-21094-1] c 35 N88-24941

**ELECTRIC ENERGY STORAGE**  
 Apparatus for measuring current flow Patent  
 [NASA-CASE-XGS-02439] c 14 N71-19431  
 Lead-oxygen dc power supply system having a closed loop oxygen and water system  
 [NASA-CASE-MFS-23059-1] c 44 N76-27664  
 Electrically rechargeable REDOX flow cell  
 [NASA-CASE-LEW-12220-1] c 44 N77-14581  
 Gels as battery separators for soluble electrode cells  
 [NASA-CASE-LEW-12364-1] c 44 N77-22606  
 Electrochemical cell for rebalancing REDOX flow system  
 [NASA-CASE-LEW-13150-1] c 44 N79-26474  
 Toroidal cell and battery --- storage battery for high amp-hour load applications  
 [NASA-CASE-LEW-12918-1] c 44 N81-24521

**ELECTRIC EQUIPMENT**  
 Ac power amplifier Patent Application  
 [NASA-CASE-LAR-10218-1] c 09 N70-34559  
 Generator for a space power system Patent  
 [NASA-CASE-XLE-04250] c 09 N71-20446  
 High impedance measuring apparatus Patent  
 [NASA-CASE-XMS-08589-1] c 09 N71-20569  
 Regulated power supply Patent  
 [NASA-CASE-XMS-01991] c 09 N71-21449  
 Method for improving the signal-to-noise ratio of the Wheatstone bridge type bolometer Patent  
 [NASA-CASE-XLA-02810] c 14 N71-25901  
 Buck boost voltage regulation circuit Patent  
 [NASA-CASE-GSC-10735-1] c 10 N71-26085  
 Electronically resettable fuse Patent  
 [NASA-CASE-XGS-11177] c 09 N71-27001  
 Voltage regulator Patent  
 [NASA-CASE-ERC-10113] c 09 N71-27053  
 Digital pulse width selection circuit Patent  
 [NASA-CASE-XLA-07788] c 09 N71-29139  
 Solar energy powered heliotrope  
 [NASA-CASE-GSC-10945-1] c 21 N72-31637  
 Temperature compensated light source using a light emitting diode  
 [NASA-CASE-ARC-10467-1] c 09 N73-14214  
 Hermetically sealed semiconductor  
 [NASA-CASE-GSC-10791-1] c 15 N73-14469  
 Overvoltage protection network  
 [NASA-CASE-ARC-10197-1] c 33 N74-17929  
 Sprag solenoid brake --- development and operations of electrically controlled brake  
 [NASA-CASE-MFS-21846-1] c 37 N74-26976  
 Shock absorbing mount for electrical components  
 [NASA-CASE-NPO-13253-1] c 37 N75-18573  
 Self-regulating proportionally controlled heating apparatus and technique  
 [NASA-CASE-GSC-11752-1] c 77 N75-20140

**ELECTRIC EQUIPMENT TESTS**  
 Test fixture for pellet-like electrical elements  
 [NASA-CASE-XNP-06032] c 09 N69-21926  
 Pulse amplitude and width detector Patent  
 [NASA-CASE-XMF-06519] c 09 N71-12519  
 High power-high voltage waterload Patent  
 [NASA-CASE-XNP-05381] c 09 N71-20842

**ELECTRIC FIELD STRENGTH**

Apparatus for field strength measurement of a space vehicle Patent  
 [NASA-CASE-XLE-00820] c 14 N71-16014  
 Apparatus for measuring electric field strength on the surface of a model vehicle Patent  
 [NASA-CASE-XLE-02038] c 09 N71-16086  
 Floating two force component measuring device Patent  
 [NASA-CASE-XAC-04885] c 14 N71-23790  
 Apparatus for determining the deflection of an electron beam impinging on a target Patent  
 [NASA-CASE-XMF-06617] c 09 N71-24843

**ELECTRIC FIELDS**

Minimum induced drag airfoil body Patent  
 [NASA-CASE-XLA-00755] c 01 N71-13410  
 Minimum induced drag airfoil body Patent  
 [NASA-CASE-XLA-05828] c 01 N71-13411  
 Instrument for measuring potentials on two dimensional electric field plots Patent  
 [NASA-CASE-XLA-08493] c 10 N71-19421  
 Electron beam instrument for measuring electric fields Patent  
 [NASA-CASE-XMF-10289] c 14 N71-23699  
 Field ionization electrodes Patent  
 [NASA-CASE-ERC-10013] c 09 N71-26678  
 Determining distance to lightning strokes from a single station  
 [NASA-CASE-KSC-10698] c 07 N73-20175  
 Rocket borne instrument to measure electric fields inside electrified clouds  
 [NASA-CASE-KSC-10730-1] c 14 N73-32318  
 Electric field measuring and display system --- for cloud formations  
 [NASA-CASE-KSC-10731-1] c 33 N74-27862  
 Lightning discharge identification system  
 [NASA-CASE-KSC-11099-1] c 47 N82-24779  
 Maser cavity servo-tuning system  
 [NASA-CASE-NPO-15890-1-CU] c 33 N85-29143  
 Method of measuring field funneling and range straggling in semiconductor charge-collecting junctions  
 [NASA-CASE-NPO-16584-1-CU] c 76 N86-25269

**ELECTRIC FILTERS**

Static inverters which sum a plurality of waves Patent  
 [NASA-CASE-XMF-00663] c 08 N71-18752  
 Remodulator filter Patent  
 [NASA-CASE-NPO-10198] c 09 N71-24806  
 RC networks and amplifiers employing the same  
 [NASA-CASE-XAC-05462-2] c 10 N72-17171  
 Multiloop RC active filter apparatus having low parameter sensitivity with low amplifier gain  
 [NASA-CASE-ARC-10192] c 09 N72-21245  
 Radio frequency filter device  
 [NASA-CASE-XLA-02609] c 09 N72-25256  
 Filter for third order phase locked loops  
 [NASA-CASE-NPO-11941-1] c 10 N73-27171

**ELECTRIC FURNACES**

High gradient directional solidification furnace  
 [NASA-CASE-MFS-25963-1] c 35 N86-20750

**ELECTRIC FUSES**

Electrical load protection device Patent  
 [NASA-CASE-MSC-12135-1] c 09 N71-12526  
 Diode and protection fuse unit Patent  
 [NASA-CASE-XKS-03381] c 09 N71-22796  
 Fused switch  
 [NASA-CASE-XMS-01244-1] c 33 N79-33393

**ELECTRIC GENERATORS**

Regulated dc to dc converter  
 [NASA-CASE-XGS-03429] c 03 N69-21330  
 Generator for a space power system Patent  
 [NASA-CASE-XLE-04250] c 09 N71-20446  
 Solid state pulse generator with constant output width, for variable input width, in nanosecond range Patent  
 [NASA-CASE-XGS-03427] c 10 N71-23029  
 Continuous turning slip ring assembly Patent  
 [NASA-CASE-XMF-01049] c 15 N71-23049  
 Positive dc to positive dc converter Patent  
 [NASA-CASE-XMF-14301] c 09 N71-23188  
 High temperature ferromagnetic cobalt-base alloy Patent  
 [NASA-CASE-XLE-03629] c 17 N71-23248  
 Variable width pulse integrator Patent  
 [NASA-CASE-XLA-03356] c 10 N71-23315  
 Power system with heat pipe liquid coolant lines Patent  
 [NASA-CASE-MFS-14114-2] c 09 N71-24807  
 RC rate generator for slow speed measurement Patent  
 [NASA-CASE-XMF-02966] c 10 N71-24903  
 Pulse width inverter Patent  
 [NASA-CASE-MFS-10068] c 10 N71-25139  
 Multiple varactor frequency doubler Patent  
 [NASA-CASE-XMF-04958-1] c 10 N71-26414  
 Failure sensing and protection circuit for converter networks Patent  
 [NASA-CASE-GSC-10114-1] c 10 N71-27366



Power system with heat pipe liquid coolant lines Patent  
 [NASA-CASE-MFS-14114] c 33 N71-27862  
 Load-insensitive electrical device  
 [NASA-CASE-XER-11046] c 09 N72-22203  
 Controllable load insensitive power converters  
 [NASA-CASE-ERC-10268] c 09 N72-25252  
 A dc to ac to dc converter having transistor synchronous rectifiers  
 [NASA-CASE-GSC-11126-1] c 09 N72-25253  
 Electromagnetic wave energy converter  
 [NASA-CASE-GSC-11394-1] c 09 N73-32109  
 Heat operated cryogenic electrical generator  
 [NASA-CASE-NPO-13303-1] c 20 N75-24837  
 Electric power generation system directory from laser power  
 [NASA-CASE-NPO-13308-1] c 36 N75-30524  
 Smoke generator  
 [NASA-CASE-ARC-10905-1] c 37 N77-13418  
 Electro-mechanical sine/cosine generator  
 [NASA-CASE-LAR-11389-1] c 33 N77-26387  
 Wind wheel electric power generator  
 [NASA-CASE-MFS-23515-1] c 44 N80-21828  
 Natural turbulence electrical power generator --- using wave action or random motion  
 [NASA-CASE-LAR-11551-1] c 44 N80-29834  
 Electrical power generating system --- for windpowered generation  
 [NASA-CASE-MFS-24368-3] c 33 N81-22280  
 Linear magnetic motor/generator --- to generate electric energy using magnetic flux for spacecraft power supply  
 [NASA-CASE-GSC-12518-1] c 33 N82-24421  
 Electrical power generating system  
 [NASA-CASE-MFS-25302-1] c 33 N83-28319  
 Control system for an induction motor with energy recovery  
 [NASA-CASE-MFS-25477-1] c 33 N84-14424  
 Solar powered actuator with continuously variable auxiliary power control  
 [NASA-CASE-MFS-25637-1] c 44 N85-21769  
 Liquid hydrogen polygeneration system and process  
 [NASA-CASE-KSC-11304-2] c 28 N86-23744

**ELECTRIC IGNITION**

Method of making a solid propellant rocket motor Patent  
 [NASA-CASE-XLA-04126] c 28 N71-26779

**ELECTRIC MOTOR VEHICLES**

Automotive absorption air conditioner utilizing solar and motor waste heat  
 [NASA-CASE-NPO-15183-1] c 44 N82-26776

**ELECTRIC MOTORS**

Bus voltage compensation circuit for controlling direct current motor  
 [NASA-CASE-XMS-04215-1] c 09 N69-39987  
 Electronic motor control system Patent  
 [NASA-CASE-XMF-01129] c 09 N70-38712  
 Electronic beam switching commutator Patent  
 [NASA-CASE-XGS-01451] c 09 N71-10677  
 Regenerative braking system Patent  
 [NASA-CASE-XMF-01096] c 10 N71-16030  
 Angular position and velocity sensing apparatus Patent  
 [NASA-CASE-XGS-05680] c 14 N71-17585  
 Reversible current control apparatus Patent  
 [NASA-CASE-XLA-09371] c 10 N71-18724  
 Stepping motor control circuit Patent  
 [NASA-CASE-GSC-10366-1] c 10 N71-18772  
 Detentling servomotor Patent  
 [NASA-CASE-XNP-06936] c 15 N71-24695  
 Transistor servo system including a unique differential amplifier circuit Patent  
 [NASA-CASE-XMF-05195] c 10 N71-24861  
 Velocity limiting safety system Patent  
 [NASA-CASE-XLA-07473] c 15 N71-24895  
 Direct current motor with stationary armature and field Patent  
 [NASA-CASE-XGS-05290] c 09 N71-25999  
 Dual polarity full wave dc motor drive Patent  
 [NASA-CASE-XNP-07477] c 09 N71-26092  
 Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
 [NASA-CASE-XGS-04224] c 10 N71-26418  
 A dc motor speed control system Patent  
 [NASA-CASE-MFS-14610] c 09 N71-28886  
 Optimal control system for an electric motor driven vehicle  
 [NASA-CASE-NPO-11210] c 11 N72-20244  
 Electric motive machine including magnetic bearing  
 [NASA-CASE-XGS-07805] c 15 N72-33476  
 Redundant speed control for brushless Hall effect motor  
 [NASA-CASE-MFS-20207-1] c 09 N73-32107  
 Three phase full wave dc motor decoder  
 [NASA-CASE-GSC-11824-1] c 33 N77-26386  
 Rotary electric device  
 [NASA-CASE-GSC-12138-1] c 33 N79-20314

Controller for computer control of brushless dc motors --- automobile engines  
 [NASA-CASE-NPO-13970-1] c 33 N81-20352  
 Linear magnetic motor/generator --- to generate electric energy using magnetic flux for spacecraft power supply  
 [NASA-CASE-GSC-12518-1] c 33 N82-24421  
 Four quadrant control circuit for a brushless three-phase dc motor  
 [NASA-CASE-MFS-28080-1] c 33 N87-21233  
 Reciprocating linear motor  
 [NASA-CASE-GSC-12773-2] c 33 N87-23904

**ELECTRIC NETWORKS**

Condition and condition duration indicator Patent  
 [NASA-CASE-XMF-01097] c 10 N71-16058  
 Solid state pulse generator with constant output width, for variable input width, in nanosecond range Patent  
 [NASA-CASE-XGS-03427] c 10 N71-23029  
 Increasing efficiency of switching type regulator circuits Patent  
 [NASA-CASE-XMS-09352] c 09 N71-23316  
 Broadband frequency discriminator Patent  
 [NASA-CASE-NPO-10096] c 07 N71-24583  
 Test apparatus for locating shorts during assembly of electrical buses  
 [NASA-CASE-ARC-11116-1] c 33 N82-24420

**ELECTRIC POTENTIAL**

Method and apparatus for battery charge control Patent  
 [NASA-CASE-XGS-05432] c 03 N71-19438  
 Positive dc to positive dc converter Patent  
 [NASA-CASE-XMF-14301] c 09 N71-23188  
 Variable width pulse integrator Patent  
 [NASA-CASE-XLA-03356] c 10 N71-23315  
 Voltage dropout sensor Patent  
 [NASA-CASE-KSC-10020] c 10 N71-27338  
 Automated equipotential plotter  
 [NASA-CASE-NPO-11134] c 09 N72-21246  
 Pulsed excitation voltage circuit for transducers  
 [NASA-CASE-FRC-10036] c 09 N72-22200  
 Load-insensitive electrical device  
 [NASA-CASE-XER-11046] c 09 N72-22203  
 Continuously variable voltage controlled phase shifter  
 [NASA-CASE-NPO-11129] c 09 N72-33204  
 Photoelectron spectrometer with means for stabilizing sample surface potential  
 [NASA-CASE-NPO-13772-1] c 35 N78-10429  
 Microcomputerized electric field meter diagnostic and calibration system  
 [NASA-CASE-KSC-11035-1] c 35 N78-28411  
 Driver for solar cell I-V characteristic plots  
 [NASA-CASE-NPO-14096-1] c 44 N80-18551  
 Microwave integrated circuit for Josephson voltage standards  
 [NASA-CASE-MFS-23845-1] c 33 N81-17348  
 Synchronized voltage contrast display analysis system  
 [NASA-CASE-NPO-14567-1] c 33 N83-18996  
 Method for detecting coliform organisms  
 [NASA-CASE-ARC-11322-1] c 51 N83-28849  
 Phase detector for three-phase power factor controller  
 [NASA-CASE-MFS-25854-1] c 33 N84-27975  
 Simplified dc to dc converter  
 [NASA-CASE-LEW-13495-1] c 33 N84-33663  
 High voltage power supply  
 [NASA-CASE-GSC-12818-1] c 33 N85-29147  
 Modulated voltage metastable ionization detector  
 [NASA-CASE-ARC-11503-1] c 35 N85-34374  
 Angular measurement system  
 [NASA-CASE-MFS-25825-1] c 31 N86-29055  
 FET charge sensor and voltage probe  
 [NASA-CASE-NPO-16045-1] c 76 N87-13313

**ELECTRIC POWER**

Switching circuit employing regeneratively connected complementary transistors Patent  
 [NASA-CASE-XNP-02654] c 10 N70-42032  
 High power-high voltage waterload Patent  
 [NASA-CASE-XNP-05381] c 09 N71-20842  
 Power factor control system for AC induction motors  
 [NASA-CASE-MFS-23280-1] c 33 N78-10376  
 Shunt regulation electric power system  
 [NASA-CASE-GSC-10135] c 33 N78-17296  
 Electrical power generating system --- for windpowered generation  
 [NASA-CASE-MFS-24368-3] c 33 N81-22280

**ELECTRIC POWER PLANTS**

Ocean thermal plant  
 [NASA-CASE-KSC-11034-1] c 44 N78-32542  
 Wind and solar powered turbine  
 [NASA-CASE-NPO-15496-1] c 44 N84-23018

**ELECTRIC POWER SUPPLIES**

Current dependant filter inductance  
 [NASA-CASE-ERC-10139] c 09 N72-17154  
 Thermal to electrical power conversion system with solid-state switches with Seebeck effect compensation  
 [NASA-CASE-NPO-11388] c 03 N72-23048  
 Parasitic suppressing circuit  
 [NASA-CASE-ERC-10403-1] c 10 N73-26228

Powerplexer  
 [NASA-CASE-MSC-12396-1] c 03 N73-31988  
 Inherent redundancy electric heater  
 [NASA-CASE-MFS-21462-1] c 33 N74-14935  
 Temperature compensated current source  
 [NASA-CASE-MSC-11235] c 33 N78-17294  
 High voltage power supply  
 [NASA-CASE-GSC-12818-1] c 33 N85-29147  
 Arc lamp power supply using a voltage multiplier  
 [NASA-CASE-LAR-13202-1] c 33 N88-23942  
 Magnetically switched power supply system for lasers  
 [NASA-CASE-NPO-16402-2] c 33 N88-24862

**ELECTRIC POWER TRANSMISSION**

Magnetic power switch Patent  
 [NASA-CASE-NPO-10242] c 09 N71-24803  
 Failure sensing and protection circuit for converter networks Patent  
 [NASA-CASE-GSC-10114-1] c 10 N71-27366  
 Powerplexer  
 [NASA-CASE-MSC-12396-1] c 03 N73-31988  
 Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
 [NASA-CASE-MFS-21470-1] c 44 N74-19870  
 Electrical rotary joint apparatus for large space structures  
 [NASA-CASE-MFS-23981-1] c 07 N83-20944

**ELECTRIC PROPULSION**

Electric propulsion engine test chamber Patent  
 [NASA-CASE-XLE-00252] c 11 N70-34844

**ELECTRIC PULSES**

Pulse counting circuit which simultaneously indicates the occurrence of the nth pulse Patent  
 [NASA-CASE-XMF-00906] c 09 N70-41655  
 Variable pulse width multiplier Patent  
 [NASA-CASE-XLA-02850] c 09 N71-20447  
 Phonocardiograph transducer Patent  
 [NASA-CASE-XMS-05365] c 14 N71-22993  
 Solid state pulse generator with constant output width, for variable input width, in nanosecond range Patent  
 [NASA-CASE-XGS-03427] c 10 N71-23029  
 Variable width pulse integrator Patent  
 [NASA-CASE-XLA-03356] c 10 N71-23315  
 Pulse rise time and amplitude detector Patent  
 [NASA-CASE-XMF-08804] c 09 N71-24717  
 Counter Patent  
 [NASA-CASE-XNP-06234] c 10 N71-27137  
 Precision rectifier with FET switching means Patent  
 [NASA-CASE-ARC-10101-1] c 09 N71-33109  
 Phase modulating with odd and even finite power series of a modulating signal  
 [NASA-CASE-LAR-11607-1] c 32 N77-14292  
 Telephone multiline signaling using common signal pair  
 [NASA-CASE-KSC-11023-1] c 32 N79-23310  
 Active lamp pulse driver circuit --- optical pumping of laser media  
 [NASA-CASE-GSC-12566-1] c 33 N83-34189

**ELECTRIC RELAYS**

Protective circuit of the spark gap type  
 [NASA-CASE-XAC-08981] c 09 N69-39897  
 Time-division multiplexer Patent  
 [NASA-CASE-XNP-00431] c 09 N70-38998  
 Out of tolerance warning alarm system for plurality of monitored circuits Patent  
 [NASA-CASE-XMS-10984-1] c 10 N71-19417  
 Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
 [NASA-CASE-GSC-10373-1] c 07 N71-19773  
 Circuit breaker utilizing magnetic latching relays Patent  
 [NASA-CASE-MSC-11277] c 09 N71-29008  
 Multi-cell battery protection system  
 [NASA-CASE-LEW-12039-1] c 44 N78-14625

**ELECTRIC ROCKET ENGINES**

Electron bombardment ion engine Patent  
 [NASA-CASE-XNP-04124] c 28 N71-21822

**ELECTRIC SPARKS**

Method and device for detection of a substance --- determining carbon fiber release in fire situations  
 [NASA-CASE-NPO-14940-1] c 33 N83-31954

**ELECTRIC STIMULI**

Tread drum for animals --- having an electrical shock station  
 [NASA-CASE-ARC-10917-1] c 51 N78-27733

**ELECTRIC SWITCHES**

Thermionic diode switch Patent  
 [NASA-CASE-NPO-10404] c 03 N71-12255  
 Deflective rod switch with elastic support and sealing means Patent  
 [NASA-CASE-XNP-09808] c 09 N71-12518  
 Electrical switching device Patent  
 [NASA-CASE-NPO-10037] c 09 N71-19610

- Plural position switch status and operativeness checker Patent  
[NASA-CASE-XLA-08799] c 10 N71-27272
- Pulse generating circuit employing switch means on ends of delay line for alternately charging and discharging same Patent  
[NASA-CASE-XNP-00745] c 10 N71-28960
- Cyclic switch Patent  
[NASA-CASE-LEW-10155-1] c 09 N71-29035
- Telemetry actuated switch  
[NASA-CASE-ARC-10105] c 09 N72-17153
- Differential pressure control  
[NASA-CASE-MFS-14216] c 14 N73-13418
- Fused switch  
[NASA-CASE-XMS-01244-1] c 33 N79-33393
- Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418
- Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356
- Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233
- ELECTRIC TERMINALS**
- Electrical connector pin with wiping action  
[NASA-CASE-XMF-04238] c 09 N69-39734
- Electrical connector for flat cables Patent  
[NASA-CASE-XMF-00324] c 09 N70-34596
- Tool attachment for spreading loose elements away from work Patent  
[NASA-CASE-XMF-02107] c 15 N71-10809
- Electrical spot terminal assembly Patent  
[NASA-CASE-NPO-10034] c 15 N71-17685
- Resistance soldering apparatus  
[NASA-CASE-GSC-10913] c 15 N72-22491
- Radio frequency filter device  
[NASA-CASE-XLA-02609] c 09 N72-25256
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MFS-22133-1] c 33 N74-26977
- ELECTRIC WELDING**
- Electric welding torch Patent  
[NASA-CASE-XMF-02330] c 15 N71-23798
- Butt welder for fine gauge tungsten/rhenium thermocouple wire  
[NASA-CASE-LAR-10103-1] c 15 N73-14468
- Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515
- ELECTRIC WIRE**
- Wire grid forming apparatus Patent  
[NASA-CASE-XLE-00023] c 15 N70-33330
- Weld control system using thermocouple wire Patent  
[NASA-CASE-MFS-06074] c 15 N71-20393
- Ablation sensor Patent  
[NASA-CASE-XLA-01794] c 33 N71-21586
- Resistance soldering apparatus  
[NASA-CASE-GSC-10913] c 15 N72-22491
- Lead attachment to high temperature devices  
[NASA-CASE-ERC-10224] c 09 N72-25261
- Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
[NASA-CASE-LAR-10168-1] c 33 N74-22865
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MFS-22133-1] c 33 N74-26977
- High current electrical lead --- for thermionic converters  
[NASA-CASE-LEW-10950-1] c 33 N74-27683
- Wire stripper  
[NASA-CASE-FRC-10111-1] c 37 N79-10419
- Method and apparatus for preparing multiconductor cable with flat conductors  
[NASA-CASE-MFS-10946-1] c 31 N79-21226
- Edge coating of flat wires  
[NASA-CASE-XMF-05757-1] c 31 N79-21227
- Thin wire pointing method  
[NASA-CASE-NPO-15789-1] c 31 N83-19947
- ELECTRICAL ENGINEERING**
- Relay binary circuit Patent  
[NASA-CASE-XMF-00421] c 09 N70-34502
- Vibrating element electrometer with output signal magnified over input signal by a function of the mechanical Q of the vibrating element Patent  
[NASA-CASE-XAC-02807] c 09 N71-23021
- ELECTRICAL FAULTS**
- Apparatus for overcurrent protection of a push-pull amplifier Patent  
[NASA-CASE-MSC-12033-1] c 09 N71-13531
- Failure sensing and protection circuit for converter networks Patent  
[NASA-CASE-GSC-10114-1] c 10 N71-27366
- Solar cell assembly test method  
[NASA-CASE-NPO-10401] c 03 N72-20033
- Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c 60 N76-21914
- Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333
- ELECTRICAL IMPEDANCE**
- High voltage transistor circuit Patent  
[NASA-CASE-XNP-06937] c 09 N71-19516
- High impedance measuring apparatus Patent  
[NASA-CASE-XMS-08589-1] c 09 N71-20569
- Multialarm summary alarm Patent  
[NASA-CASE-XLE-03061-1] c 10 N71-24798
- Signal conditioning circuit apparatus --- with constant input impedance  
[NASA-CASE-ARC-10348-1] c 33 N75-19518
- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525
- Solid-state current transformer  
[NASA-CASE-MFS-22560-1] c 33 N77-14335
- ELECTRICAL INSULATION**
- Solenoid construction Patent  
[NASA-CASE-XNP-01951] c 09 N70-41929
- Method and apparatus for cryogenic wire stripping Patent  
[NASA-CASE-MFS-10340] c 15 N71-17628
- Plasma device feed system Patent  
[NASA-CASE-XLE-02902] c 25 N71-21694
- Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781
- Electrical insulating layer process  
[NASA-CASE-LEW-10489-1] c 15 N72-25447
- Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c 33 N74-21851
- Stored charge transistor  
[NASA-CASE-NPO-11156-2] c 33 N75-31331
- Method of making an insulation foil  
[NASA-CASE-LEW-11484-1] c 24 N75-33181
- Gas ion laser construction for electrically isolating the pressure gauge thereof  
[NASA-CASE-MFS-22597] c 36 N78-17366
- Wire stripper  
[NASA-CASE-FRC-10111-1] c 37 N79-10419
- Coaxial cable connector  
[NASA-CASE-NPO-16764-1-CU] c 33 N88-14270
- ELECTRICAL MEASUREMENT**
- Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785
- Bootstrap unloader Patent  
[NASA-CASE-XNP-09768] c 09 N71-12516
- Micro current measuring device using plural logarithmic response heated filamentary type diodes Patent  
[NASA-CASE-XNP-00384] c 09 N71-13530
- Apparatus for field strength measurement of a space vehicle Patent  
[NASA-CASE-XLE-00820] c 14 N71-16014
- Apparatus for measuring current flow Patent  
[NASA-CASE-XGS-02439] c 14 N71-19431
- High voltage divider system Patent  
[NASA-CASE-XLE-02008] c 09 N71-21583
- Ablation sensor Patent  
[NASA-CASE-XLA-01794] c 33 N71-21586
- Hall current measuring apparatus having a series resistor for temperature compensation Patent  
[NASA-CASE-XAC-01662] c 14 N71-23037
- Connector internal force gauge Patent  
[NASA-CASE-XNP-03918] c 14 N71-23087
- Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244
- Lightning current measuring systems  
[NASA-CASE-KSC-10807-1] c 33 N75-26246
- Rapid activation and checkout device for batteries  
[NASA-CASE-MFS-22749-1] c 44 N76-14601
- Electrical conductivity cell and method for fabricating the same  
[NASA-CASE-ARC-10810-1] c 33 N76-19339
- Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c 33 N76-21390
- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525
- Apparatus for measuring semiconductor device resistance  
[NASA-CASE-NPO-14424-1] c 33 N80-32650
- Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779
- Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659
- Four-terminal electrical testing device --- initiator bridgwire resistance  
[NASA-CASE-MSC-21166-1] c 35 N87-25555
- ELECTRICAL PROPERTIES**
- Drift compensation circuit for analog to digital converter Patent  
[NASA-CASE-XNP-04780] c 08 N71-19687
- Electronically resettable fuse Patent  
[NASA-CASE-XGS-11177] c 09 N71-27001
- Voltage regulator Patent  
[NASA-CASE-ERC-10113] c 09 N71-27053
- Radiometric temperature reference Patent  
[NASA-CASE-MSC-13276-1] c 14 N71-27058
- Solar cell matrix  
[NASA-CASE-NPO-11190] c 03 N71-34044
- Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
[NASA-CASE-NPO-11806-1] c 44 N74-19693
- Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c 35 N76-15434
- Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437
- ELECTRICAL RESISTANCE**
- Positive contact resistance soldering unit  
[NASA-CASE-KSC-10242] c 15 N72-23497
- RF-source resistance meters  
[NASA-CASE-NPO-11291-1] c 14 N73-30388
- Apparatus for measuring semiconductor device resistance  
[NASA-CASE-NPO-14424-1] c 33 N80-32650
- Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375
- Four-terminal electrical testing device --- initiator bridgwire resistance  
[NASA-CASE-MSC-21166-1] c 35 N87-25555
- A digitally controlled system for effecting and presenting a selected electrical resistance  
[NASA-CASE-MFS-29149-1] c 33 N87-29737
- ELECTRICAL RESISTIVITY**
- GaAs solar detector using manganese as a doping agent Patent  
[NASA-CASE-XNP-01328] c 26 N71-18064
- Thermopile vacuum gage tube simulator Patent  
[NASA-CASE-XLA-02758] c 14 N71-18481
- Electrically conductive fluorocarbon polymer  
[NASA-CASE-XLE-06774-2] c 06 N72-25150
- Electrical conductivity cell and method for fabricating the same  
[NASA-CASE-ARC-10810-1] c 33 N76-19339
- Durable antistatic coating for polymethylmethacrylate  
[NASA-CASE-NPO-13867-1] c 27 N78-14164
- Remote lightning monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315
- Lightweight electrically-powered flexible thermal laminate --- made of metal and nonconductive yarns  
[NASA-CASE-MSC-12662-1] c 33 N79-12331
- Electrically conductive thermal control coatings  
[NASA-CASE-GSC-12207-1] c 24 N79-14156
- Electrically conductive palladium containing polyimide films  
[NASA-CASE-LAR-12705-1] c 25 N82-26396
- Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709
- Method and device for detection of a substance --- determining carbon fiber release in fire situations  
[NASA-CASE-NPO-14940-1] c 33 N83-31954
- Piezoelectric composite materials  
[NASA-CASE-LEW-12582-1] c 76 N83-34796
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA 1.71:NPO-15494-2] c 35 N85-34373
- High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938
- ELECTRICITY**
- Thermionic converter with current augmented by self induced magnetic field Patent  
[NASA-CASE-XLE-01903] c 22 N71-23599
- Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875
- ELECTRO-OPTICS**
- Electro-optical scanning apparatus Patent Application  
[NASA-CASE-NPO-11106] c 14 N70-34697
- Electro-optical alignment control system Patent  
[NASA-CASE-XMF-00908] c 14 N70-40238
- Polarimeter for transient measurement Patent  
[NASA-CASE-XNP-08883] c 23 N71-16101
- Light direction sensor  
[NASA-CASE-NPO-11201] c 14 N72-27409
- Ultrastable calibrated light source  
[NASA-CASE-MSC-12293-1] c 14 N72-27411
- Optical conversion method --- for spacecraft television  
[NASA-CASE-MSC-12618-1] c 74 N78-17865
- Noncontacting method for measuring angular deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138
- Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295
- Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982



- Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874
- ELECTROACOUSTIC TRANSDUCERS**
- Respiration monitor  
[NASA-CASE-FRC-10012] c 14 N72-17329
- Material suspension within an acoustically excited resonant chamber --- at near weightless conditions  
[NASA-CASE-NPO-13263-1] c 12 N75-24774
- CDS solid state phase insensitive ultrasonic transducer --- annealing dardium sulfide crystals  
[NASA-CASE-LAR-12304-1] c 35 N80-20559
- ELECTROACOUSTIC WAVES**
- Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606
- ELECTROCARDIOGRAPHY**
- Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606
- Ratemeter  
[NASA-CASE-MFS-20418] c 14 N73-24473
- Insulated electrocardiographic electrodes --- without paste electrolyte  
[NASA-CASE-MSC-14339-1] c 05 N75-24716
- Pocket ECG electrode  
[NASA-CASE-ARC-11258-1] c 52 N80-33081
- Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612
- ELECTROCATALYSTS**
- Electrocatalyst for oxygen reduction  
[NASA-CASE-HQN-10537-1] c 06 N72-10138
- Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-1] c 33 N80-20487
- Zirconium carbide as an electrocatalyst for the chromous-chromic redox couple  
[NASA-CASE-LEW-13246-1] c 44 N83-27344
- ELECTROCHEMICAL CELLS**
- Apparatus for measuring swelling characteristics of membranes  
[NASA-CASE-XGS-03865] c 14 N69-21363
- Prevention of pressure build-up in electrochemical cells Patent  
[NASA-CASE-XGS-01419] c 03 N70-41864
- Non-magnetic battery case Patent  
[NASA-CASE-XGS-00886] c 03 N71-11053
- Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974
- Sealed electrochemical cell provided with a flexible casing Patent  
[NASA-CASE-XGS-01513] c 03 N71-23336
- Electric battery and method for operating same Patent  
[NASA-CASE-XGS-01674] c 03 N71-29129
- Frangible electrochemical cell  
[NASA-CASE-XGS-10010] c 03 N72-15986
- Porus electrode comprising a bonded stack of pieces of corrugated metal foil  
[NASA-CASE-GSC-11368-1] c 09 N73-32108
- Battery testing device --- for testing cells of multiple-cell battery  
[NASA-CASE-MFS-20761-1] c 44 N74-27519
- Electrical conductivity cell and method for fabricating the same  
[NASA-CASE-ARC-10810-1] c 33 N76-19339
- Multi-cell battery protection system  
[NASA-CASE-LEW-12039-1] c 44 N78-14625
- Method and device for the detection of phenol and related compounds --- in an electrochemical cell  
[NASA-CASE-LEW-12513-1] c 25 N79-22235
- Electrochemical cell for rebalancing REDOX flow system  
[NASA-CASE-LEW-13150-1] c 44 N79-26474
- Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-1] c 33 N80-20487
- Alkaline electrochemical cells and method of making  
[NASA-CASE-GSC-10349-1] c 44 N82-24645
- Method for determining the point of zero zeta potential of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923
- Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- ELECTROCHEMICAL MACHINING**
- Apparatus for electrolytically tapered or contoured cavities  
[NASA-CASE-XNP-08835-1] c 37 N80-14395
- ELECTROCHEMICAL OXIDATION**
- Method and device for the detection of phenol and related compounds --- in an electrochemical cell  
[NASA-CASE-LEW-12513-1] c 25 N79-22235
- Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112
- ELECTROCHEMISTRY**
- Electrode for biological recording  
[NASA-CASE-XMS-02872] c 05 N69-21925

- Electrochemical detection device --- for use in microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073
- ELECTRODE FILM BARRIERS**
- Formulated plastic separators for soluble electrode cells --- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313
- ELECTRODEPOSITION**
- Method of electrolytically binding a layer of semiconductors together Patent  
[NASA-CASE-XNP-01959] c 26 N71-23043
- Method of producing crystalline materials  
[NASA-CASE-NPO-10440] c 15 N72-21466
- Electrophoretic sample insertion --- device for uniformly distributing samples in flow path  
[NASA-CASE-MFS-21395-1] c 25 N74-26948
- Multitarget sequential sputtering apparatus  
[NASA-CASE-NPO-13345-1] c 37 N75-19684
- Method and device for the detection of phenol and related compounds --- in an electrochemical cell  
[NASA-CASE-LEW-12513-1] c 25 N79-22235
- ELECTRODES**
- Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c 09 N69-21542
- Electrode for biological recording  
[NASA-CASE-XMS-02872] c 05 N69-21925
- Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786
- Ionization vacuum gauge Patent  
[NASA-CASE-XNP-00646] c 14 N70-35666
- Double optic system for ion engine Patent  
[NASA-CASE-XNP-02839] c 28 N70-41922
- Didymium hydrate additive to nickel hydroxide electrodes Patent  
[NASA-CASE-XGS-03505] c 03 N71-10608
- Focussing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618
- Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189
- Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193
- Pressed disc type sensing electrodes with ion-screening means Patent  
[NASA-CASE-XMS-04212-1] c 05 N71-12346
- Method of making electrical contact on silicon solar cell and resultant product Patent  
[NASA-CASE-XLE-04787] c 03 N71-20492
- Arc electrode of graphite with ball tip Patent  
[NASA-CASE-XLE-04788] c 09 N71-22987
- Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022
- Automatic recording McLeod gauge Patent  
[NASA-CASE-XLE-03280] c 14 N71-23093
- Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618
- Plated electrodes Patent  
[NASA-CASE-XMS-04213-1] c 09 N71-26002
- Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-XFR-07658-1] c 05 N71-26293
- Field ionization electrodes Patent  
[NASA-CASE-ERC-10013] c 09 N71-26678
- Method of making a perspiration resistant biopotential electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120
- Method of making dry electrodes  
[NASA-CASE-FRC-10029-2] c 05 N72-25121
- Compressible biomedical electrode  
[NASA-CASE-MSC-13648] c 05 N72-27103
- Method and apparatus for limiting field emission current  
[NASA-CASE-ERC-10015-2] c 10 N72-27246
- Coaxial high density, hypervelocity plasma generator and accelerator with ionizable metal disc  
[NASA-CASE-MFS-20589] c 25 N72-32688
- Ion thruster with a combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c 28 N73-24783
- Wide temperature range electronic device with lead attachment  
[NASA-CASE-ERC-10224-2] c 09 N73-27150
- Porus electrode comprising a bonded stack of pieces of corrugated metal foil  
[NASA-CASE-GSC-11368-1] c 09 N73-32108
- High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c 33 N74-12913
- Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692

- Insulated electrocardiographic electrodes --- without paste electrolyte  
[NASA-CASE-MSC-14339-1] c 05 N75-24716
- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525
- Gels as battery separators for soluble electrode cells  
[NASA-CASE-LEW-12364-1] c 44 N77-22606
- Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717
- Apparatus for electrolytically tapered or contoured cavities  
[NASA-CASE-XNP-08835-1] c 37 N80-14395
- Toroidal cell and battery --- storage battery for high amp-hour load applications  
[NASA-CASE-LEW-12918-1] c 44 N81-24521
- Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524
- Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268
- Multistage depressed collector for dual mode operation --- for microwave transmitting tubes  
[NASA-CASE-LEW-13282-1] c 33 N82-24415
- Alkaline electrochemical cells and method of making  
[NASA-CASE-GSC-10349-1] c 44 N82-24645
- Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175
- Photoelectrochemical electrodes  
[NASA-CASE-NPO-15458-1] c 25 N84-12262
- Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456
- Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734
- Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205
- Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565
- Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212
- Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721
- Discharge cell for optogalvanic spectroscopy having orthogonal relationship between the probe laser and discharge axis  
[NASA-CASE-NPO-16271-1] c 35 N86-25753
- Spillage detector for liquid chromatography systems  
[NASA-CASE-MSC-20206-1] c 25 N86-27431
- ELECTRODIALYSIS**
- Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370
- ELECTROFORMING**
- Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c 20 N74-32919
- ELECTROHYDRAULIC FORMING**
- Electrical discharge apparatus for forming Patent  
[NASA-CASE-XMF-00375] c 15 N70-34249
- ELECTROHYDRODYNAMICS**
- Electrohydrodynamic control valve Patent  
[NASA-CASE-NPO-10416] c 12 N71-27332
- ELECTROKINETICS**
- Zeta potential flowmeter Patent  
[NASA-CASE-XNP-06509] c 14 N71-23226
- ELECTROLUMINESCENCE**
- Flat-panel, full-color, electroluminescent display  
[NASA-CASE-LAR-13407-1] c 33 N87-28831
- ELECTROLYSIS**
- Passively regulated water electrolysis rocket engine Patent  
[NASA-CASE-XGS-08729] c 28 N71-14044
- Combined electrolysis device and fuel cell and method of operation Patent  
[NASA-CASE-XLE-01645] c 03 N71-20904
- Polymeric electrolytic hygrometer  
[NASA-CASE-NPO-13948-1] c 35 N78-25391
- ELECTROLYTES**
- Apparatus for measuring swelling characteristics of membranes  
[NASA-CASE-XGS-03865] c 14 N69-21363
- Electrolytically regenerative hydrogen-oxygen fuel cell Patent  
[NASA-CASE-XLE-04526] c 03 N71-11052
- Sealed electrochemical cell provided with a flexible casing Patent  
[NASA-CASE-XGS-01513] c 03 N71-23336
- Compressible biomedical electrode  
[NASA-CASE-MSC-13648] c 05 N72-27103
- Solid electrolyte cell  
[NASA-CASE-NPO-15269-1] c 44 N82-29710
- Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205
- Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212

**ELECTROLYTIC CELLS**

- Method of making emf cell  
[NASA-CASE-LEW-11359-2] c 03 N72-20034
- Electrolytic gas operated actuator  
[NASA-CASE-NPO-11369] c 15 N73-13467
- Electrolytic cell structure  
[NASA-CASE-LAR-11042-1] c 33 N75-27252
- Reconstituted asbestos matrix --- for use in fuel or electrolysis cells  
[NASA-CASE-MSC-12568-1] c 24 N76-14204
- Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-1] c 33 N80-20487
- Cell and method for electrolysis of water and anode  
[NASA-CASE-MSC-16394-1] c 28 N81-24280
- Toroidal cell and battery --- storage battery for high amp-hour load applications  
[NASA-CASE-LEW-12918-1] c 44 N81-24521
- Solid electrolyte cell  
[NASA-CASE-NPO-15269-1] c 44 N82-29710
- State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596

**ELECTROMAGNETIC ABSORPTION**

- Multiple pass reimaging optical system  
[NASA-CASE-ARC-10194-1] c 23 N73-20741
- Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c 35 N77-14411
- Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186
- Electromagnetic power absorber  
[NASA-CASE-NPO-13830-1] c 32 N80-14281
- Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119

**ELECTROMAGNETIC FIELDS**

- Tumbler system to provide random motion  
[NASA-CASE-XGS-02437] c 15 N69-21472
- Vacuum evaporator with electromagnetic ion steering Patent  
[NASA-CASE-NPO-10331] c 09 N71-26701
- Metallic intrusion detector system  
[NASA-CASE-ARC-10265-1] c 10 N72-28240
- Low power electromagnetic flowmeter providing accurate zero set  
[NASA-CASE-ARC-10362-1] c 14 N73-32326
- Electromagnetic flow rate meter --- for liquid metals  
[NASA-CASE-LEW-10981-1] c 35 N74-21018
- Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411

**ELECTROMAGNETIC HAMMERS**

- Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114] c 15 N71-17650
- Magnetomotive metal working device Patent  
[NASA-CASE-XMF-03793] c 15 N71-24833

**ELECTROMAGNETIC INTERFERENCE**

- Sealed cabinetry Patent  
[NASA-CASE-MSC-12168-1] c 09 N71-18600
- Method of treating the surface of a glass member  
[NASA-CASE-GSC-12110-1] c 27 N77-32308
- Method and apparatus for enhancing laser absorption sensitivity  
[NASA-CASE-NPO-16567-1-CU] c 36 N87-28006
- Method and apparatus for reducing speckle  
[NASA-CASE-LAR-13771-1] c 36 N89-14428

**ELECTROMAGNETIC MEASUREMENT**

- Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors Patent  
[NASA-CASE-XGS-02608] c 07 N70-41678
- Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411
- Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779

**ELECTROMAGNETIC NOISE**

- Parametric amplifiers with idler circuit feedback  
[NASA-CASE-LAR-10253-1] c 09 N72-25258
- Audio system with means for reducing noise effects  
[NASA-CASE-NPO-11631] c 10 N73-12244
- Filtering device --- removing electromagnetic noise from voice communication signals  
[NASA-CASE-MFS-22720-1] c 32 N76-21366

**ELECTROMAGNETIC PROPERTIES**

- Measurement apparatus and procedure for the determination of surface emissivities  
[NASA-CASE-LAR-13455-1] c 32 N87-21206

**ELECTROMAGNETIC PROPULSION**

- Hypervelocity gun --- using both electric and chemical energy for projectile propulsion  
[NASA-CASE-XLE-03186-1] c 09 N79-21084

**ELECTROMAGNETIC PULSES**

- Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037

**ELECTROMAGNETIC PUMPS**

- Multiducted electromagnetic pump Patent  
[NASA-CASE-NPO-10755] c 15 N71-27084

**ELECTROMAGNETIC RADIATION**

- Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063
- Circulator having quarter wavelength resonant post and parametric amplifier circuits utilizing the same Patent  
[NASA-CASE-XNP-02140] c 09 N71-23097
- Electromagnetic polarization systems and methods Patent  
[NASA-CASE-GSC-10021-1] c 09 N71-24595
- Antenna design for surface wave suppression Patent  
[NASA-CASE-XLA-10772] c 07 N71-28980
- Multiple reflection conical microwave antenna  
[NASA-CASE-NPO-11661] c 07 N73-14130
- Method and apparatus for measuring electromagnetic radiation  
[NASA-CASE-LEW-11159-1] c 14 N73-28488
- Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996
- Method and apparatus for measuring distance  
[NASA-CASE-MSC-20912-1] c 32 N88-26568

**ELECTROMAGNETIC SHIELDING**

- Method of making shielded flat cable Patent  
[NASA-CASE-MFS-13687] c 09 N71-28691
- Wire stripper  
[NASA-CASE-FRC-10111-1] c 37 N79-10419
- Shielded conductor cable system  
[NASA-CASE-MSC-12745-1] c 33 N81-27397

**ELECTROMAGNETIC WAVE FILTERS**

- Laser camera and diffusion filter therefore Patent  
[NASA-CASE-NPO-10417] c 16 N71-33410

**ELECTROMAGNETIC WAVE TRANSMISSION**

- Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors Patent  
[NASA-CASE-XGS-02608] c 07 N70-41678
- Gyrotron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952

**ELECTROMAGNETISM**

- Detenting servomotor Patent  
[NASA-CASE-XNP-06936] c 15 N71-24695
- Linear magnetic bearing  
[NASA-CASE-GSC-12517-1] c 37 N83-32067
- Linear magnetic bearings  
[NASA-CASE-GSC-12582-2] c 37 N85-20337

**ELECTROMAGNETS**

- Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461
- Solenoid construction Patent  
[NASA-CASE-XNP-01951] c 09 N70-41929
- Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent  
[NASA-CASE-XGS-07514] c 23 N71-16099
- Safe-arm initiator Patent  
[NASA-CASE-LAR-10372] c 09 N71-18599
- Magnetic bearing --- for supplying magnetic fluxes  
[NASA-CASE-GSC-11079-1] c 37 N75-18574
- Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352

**ELECTROMECHANICAL DEVICES**

- Electromechanical actuator  
[NASA-CASE-XNP-05975] c 15 N69-23185
- Bimetallic power controlled actuator  
[NASA-CASE-XNP-09776] c 09 N69-39929
- Apparatus for coupling a plurality of ungrounded circuits to a grounded circuit Patent  
[NASA-CASE-XAC-00086] c 09 N70-33182
- Apparatus for controlling the velocity of an electromechanical drive for interferometers and the like Patent  
[NASA-CASE-XGS-03532] c 14 N71-17627
- Mechanical actuator Patent  
[NASA-CASE-XGS-04548] c 15 N71-24045
- Transverse piezoresistance and pinch effect electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490
- Electromechanical control actuator system Patent  
[NASA-CASE-ERC-10022] c 15 N71-26635
- Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334
- Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-10503-1] c 09 N72-21248
- Ferrofluidic solenoid  
[NASA-CASE-NPO-11738-1] c 09 N73-30185
- Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-11389-1] c 33 N77-26387
- Rotary electric device  
[NASA-CASE-GSC-12138-1] c 33 N79-20314
- Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423

- Coal-shale interface detector  
[NASA-CASE-MFS-23720-1] c 43 N80-23711
- Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569
- Piezoelectric composite materials  
[NASA-CASE-LEW-12582-1] c 76 N83-34796
- Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928
- Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604
- Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833

**ELECTROMETERS**

- Vibrating element electrometer with output signal magnified over input signal by a function of the mechanical Q of the vibrating element Patent  
[NASA-CASE-XAC-02807] c 09 N71-23021

**Pyroelectric detector arrays**

- [NASA-CASE-LAR-12363-1] c 35 N82-31659

**ELECTROMIGRATION**

- Electromigration process for the purification of molten silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105

**ELECTROMOTIVE FORCES**

- Heat activated cell Patent  
[NASA-CASE-LEW-11359] c 03 N71-28579
- Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661

**ELECTRON ATTACHMENT**

- High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877

**ELECTRON BEAM WELDING**

- Split welding chamber Patent  
[NASA-CASE-LEW-11531] c 15 N71-14932
- Device for preventing high voltage arcing in electron beam welding Patent  
[NASA-CASE-XMF-08522] c 15 N71-19486

**ELECTRON BEAMS**

- Electronic beam switching commutator Patent  
[NASA-CASE-XGS-01451] c 09 N71-10677
- Method and means for an improved electron beam scanning system Patent  
[NASA-CASE-ERC-10552] c 09 N71-12539
- Electron beam instrument for measuring electric fields Patent  
[NASA-CASE-XMF-10289] c 14 N71-23699
- Apparatus for determining the deflection of an electron beam impinging on a target Patent  
[NASA-CASE-XMF-06617] c 09 N71-24843
- Infrared detectors  
[NASA-CASE-LAR-10728-1] c 14 N73-12445
- Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c 33 N74-10195
- Image tube --- deriving electron beam replica of image  
[NASA-CASE-GSC-11602-1] c 33 N74-21850
- Very high intensity light source using a cathode ray tube --- electron beams  
[NASA-CASE-XNP-01296] c 33 N75-27250
- Low energy electron magnetometer using a monoenergetic electron beam  
[NASA-CASE-LAR-12706-1] c 35 N84-12444
- Isotope separation using tuned laser and electron beam  
[NASA-CASE-NPO-16907-1-CU] c 25 N88-24732
- Trochoidal analysis of scattered electrons in a merged electron-ion beam  
[NASA-CASE-NPO-16789-1-CU] c 72 N88-25281

**ELECTRON BOMBARDMENT**

- Ion thruster cathode  
[NASA-CASE-XLE-07087] c 06 N69-39889
- Device for measuring electron-beam intensities and for subjecting materials to electron irradiation in an electron microscope  
[NASA-CASE-XGS-01725] c 14 N69-39982
- Electron bombardment ion engine Patent  
[NASA-CASE-XNP-04124] c 28 N71-21822
- Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent  
[NASA-CASE-XLE-04501] c 09 N71-23190
- Single grid accelerator for an ion thruster  
[NASA-CASE-XLE-10453-2] c 28 N73-27699
- Containerless high temperature calorimeter apparatus  
[NASA-CASE-MFS-23923-1] c 35 N81-19426
- Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170
- Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695
- Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565

## ELECTRON CAPTURE

Apparatus and method for quiescent containerless processing of high temperature metals and alloys in low gravity  
[NASA-CASE-MFS-28087-1] c 35 N87-23944

## ELECTRON CAPTURE

Multistage depressed collector for dual mode operation --- for microwave transmitting tubes  
[NASA-CASE-LEW-13282-1] c 33 N82-24415

## ELECTRON DISTRIBUTION

Measurement of plasma temperature and density using radiation absorption  
[NASA-CASE-ARC-10598-1] c 75 N74-30156

## ELECTRON EMISSION

Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898  
Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

## ELECTRON ENERGY

Low energy electron magnetometer using a monoenergetic electron beam  
[NASA-CASE-LAR-12706-1] c 35 N84-12444

## ELECTRON FLUX DENSITY

Device for measuring electron-beam intensities and for subjecting materials to electron irradiation in an electron microscope  
[NASA-CASE-XGS-01725] c 14 N69-39982

## ELECTRON GUNS

Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083  
Generation of intense negative ion beams  
[NASA-CASE-NPO-16061-1-CU] c 72 N87-21660

## ELECTRON IRRADIATION

Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245

## ELECTRON MICROSCOPES

Device for measuring electron-beam intensities and for subjecting materials to electron irradiation in an electron microscope  
[NASA-CASE-XGS-01725] c 14 N69-39982  
Method of forming aperture plate for electron microscope  
[NASA-CASE-ARC-10448-2] c 74 N75-12732  
Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408

## ELECTRON MICROSCOPY

Synchronized voltage contrast display analysis system  
[NASA-CASE-NPO-14567-1] c 33 N83-18996

## ELECTRON OSCILLATIONS

Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

## ELECTRON PHOTON CASCADES

Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c 33 N76-27473

## ELECTRON PLASMA

Method and apparatus for producing a plasma Patent  
[NASA-CASE-XLA-00147] c 25 N70-34661

## ELECTRON SCATTERING

Trochoidal analysis of scattered electrons in a merged electron-ion beam  
[NASA-CASE-NPO-16789-1-CU] c 72 N88-25281

## ELECTRON SOURCES

Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408

## ELECTRON TRANSFER

Process for reducing secondary electron emission Patent  
[NASA-CASE-XNP-09469] c 24 N71-25555

## ELECTRON TRANSITIONS

Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426

## ELECTRON TUBES

Direct radiation cooling of the collector of linear beam tubes  
[NASA-CASE-XNP-09227] c 15 N69-24319  
Radiant heater having formed filaments Patent  
[NASA-CASE-XLE-00387] c 33 N70-34812  
Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117  
Gyrotrotron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952

## ELECTRON TUNNELING

Doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c 33 N75-31332  
Inelastic tunnel diodes  
[NASA-CASE-LEW-13833-1] c 33 N85-21492

## ELECTRONIC CONTROL

Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460  
Electronic motor control system Patent  
[NASA-CASE-XMF-01129] c 09 N70-38712  
Phase multiplying electronic scanning system Patent  
[NASA-CASE-NPO-10302] c 10 N71-26142

Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173  
Peak acceleration limiter for vibrational tester Patent  
[NASA-CASE-NPO-10556] c 14 N71-27185  
Digital control and information system  
[NASA-CASE-NPO-11016] c 08 N72-31226  
Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126  
Closed loop electrostatic levitation system  
[NASA-CASE-NPO-15553-1] c 33 N85-29142

## ELECTRONIC EQUIPMENT

Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460  
Pulse activated polarographic hydrogen detector Patent  
[NASA-CASE-XMF-06531] c 14 N71-17575  
Stable amplifier having a stable quiescent point Patent  
[NASA-CASE-XGS-02812] c 09 N71-19466  
Static inverter Patent  
[NASA-CASE-XGS-05289] c 09 N71-19470  
Circulator having quarter wavelength resonant post and parametric amplifier circuits utilizing the same Patent  
[NASA-CASE-XNP-02140] c 09 N71-23097  
Optimum predetection diversity receiving system Patent  
[NASA-CASE-XGS-00740] c 07 N71-23098  
Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent  
[NASA-CASE-XLE-04501] c 09 N71-23190  
Method and apparatus for varying thermal conductivity Patent  
[NASA-CASE-XNP-05524] c 33 N71-24876  
A solid state acoustic variable time delay line Patent  
[NASA-CASE-ERC-10032] c 10 N71-25900  
Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244  
Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215  
Temperature regulation circuit Patent  
[NASA-CASE-XNP-02792] c 14 N71-28958  
Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171  
Universal environment package with sectional component housing  
[NASA-CASE-KSC-10031] c 15 N72-22486  
Lead attachment to high temperature devices  
[NASA-CASE-ERC-10224] c 09 N72-25261  
Method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c 15 N72-25457  
Versatile arithmetic unit for high speed sequential decoder  
[NASA-CASE-NPO-11371] c 08 N73-12177  
Data processor with conditionally supplied clock signals  
[NASA-CASE-GSC-10975-1] c 08 N73-13187  
Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-1] c 14 N73-14428  
Phase control circuits using frequency multiplications for phased array antennas  
[NASA-CASE-ERC-10285] c 10 N73-16206  
Junction range finder  
[NASA-CASE-KSC-10108] c 14 N73-25461  
Electronic strain-level counter  
[NASA-CASE-LAR-10756-1] c 32 N73-26910  
Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c 32 N74-12912  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014  
Electronic analog divider  
[NASA-CASE-LEW-11881-1] c 33 N77-17354  
Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213

## ELECTRONIC EQUIPMENT TESTS

Analog to digital converter tester Patent  
[NASA-CASE-XLA-06713] c 14 N71-28991  
Signal conditioner test set  
[NASA-CASE-KSC-10750-1] c 35 N75-12270  
Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359  
Synchronized voltage contrast display analysis system  
[NASA-CASE-NPO-14567-1] c 33 N83-18996  
Cross-contact chain  
[NASA-CASE-NPO-16784-1] c 33 N87-10231

## ELECTRONIC FILTERS

Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c 09 N73-20231  
Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c 33 N74-32712  
Notch filter  
[NASA-CASE-MFS-23303-1] c 32 N77-18307

## ELECTRONIC MODULES

Thermal conductive connection and method of making same Patent  
[NASA-CASE-XMS-02087] c 09 N70-41717  
Solar cell submodule Patent  
[NASA-CASE-XNP-05821] c 03 N71-11056  
Heat conductive resiliently compressible structure for space electronics package modules Patent  
[NASA-CASE-MSC-12389] c 33 N71-29052  
Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c 37 N74-32918  
Phase substitution of spare converter for a failed one of parallel phase staggered converters  
[NASA-CASE-NPO-13812-1] c 33 N77-30365  
Method of making encapsulated solar cell modules  
[NASA-CASE-LEW-12185-1] c 44 N78-25528  
Electronically scanned pressure sensor module with in SITU calibration capability  
[NASA-CASE-LAR-12230-1] c 35 N79-14347  
Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254  
Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257  
Method and apparatus for fabricating improved solar cell modules  
[NASA-CASE-NPO-14416-1] c 44 N81-14389  
Redundant operation of counter modules  
[NASA-CASE-NPO-14162-1] c 60 N81-15706

## ELECTRONIC PACKAGING

Electrical feed-through connection for printed circuit boards and printed cable  
[NASA-CASE-XMF-01483] c 14 N69-27431  
Capacitor and method of making same Patent  
[NASA-CASE-LEW-10364-1] c 09 N71-13522  
Method of evaluating moisture barrier properties of encapsulating materials Patent  
[NASA-CASE-NPO-10051] c 18 N71-24934  
Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783  
Fragible electrochemical cell  
[NASA-CASE-XGS-10010] c 03 N72-15986  
Hermetically sealed semiconductor  
[NASA-CASE-GSC-10791-1] c 15 N73-14469  
Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c 10 N73-25243  
Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-MFS-21374-1] c 33 N74-12951  
Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c 37 N74-32918  
Chassis unit insert tightening-extract device  
[NASA-CASE-XMS-01077-1] c 37 N79-33467  
Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839  
Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934  
Hermetically sealable package for hybrid solid-state electronic devices and the like  
[NASA-CASE-MSC-20181-1] c 33 N88-23941

## ELECTRONIC RECORDING SYSTEMS

Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339

## ELECTRONIC TRANSDUCERS

Fiber optic vibration transducer and analyzer Patent  
[NASA-CASE-XMF-02433] c 14 N71-10616  
Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597  
Failure sensing and protection circuit for converter networks Patent  
[NASA-CASE-GSC-10114-1] c 10 N71-27366  
Electromagnetic transducer recording head having a laminated core section and tapered gap  
[NASA-CASE-NPO-10711-1] c 35 N77-21392  
Distributed-switch Dicke radiometers  
[NASA-CASE-GSC-12219-1] c 35 N80-18359  
Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934

## ELECTRONS

Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767  
Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253

## ELECTROPHORESIS

Electrophoretic sample insertion --- device for uniformly distributing samples in flow path  
[NASA-CASE-MFS-21395-1] c 25 N74-26948  
Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c 34 N74-27744

- Automatic multiple-sample applicator and electrophoresis apparatus  
[NASA-CASE-ARC-10991-1] c 25 N78-14104
- Portable electrophoresis apparatus using minimum electrolyte  
[NASA-CASE-NPO-13274-1] c 25 N79-10163
- Microelectrophoretic apparatus and process  
[NASA-CASE-ARC-11121-1] c 25 N79-14169
- Electrophoretic fractional elution apparatus employing a rotational seal fraction collector  
[NASA-CASE-MFS-23284-1] c 37 N80-14397
- Method for separating biological cells --- suspended in aqueous polymer systems  
[NASA-CASE-MFS-23883-1] c 51 N80-16715
- Electrophoresis device  
[NASA-CASE-MFS-25426-1] c 25 N83-10126
- Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187
- Moving wall, continuous flow electrophoresis apparatus  
[NASA-CASE-MFS-28142-1] c 25 N88-23845
- ELECTROPHOTOMETERS**  
Method and device for detecting voids in low density material Patent  
[NASA-CASE-MFS-20044] c 14 N71-28993
- ELECTROPHYSIOLOGY**  
Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618
- ELECTROPLATING**  
Method of plating copper on aluminum Patent  
[NASA-CASE-XLA-08966-1] c 17 N71-25903
- Method of making shielded flat cable Patent  
[NASA-CASE-MFS-13687] c 09 N71-28691
- Method and apparatus for sputtering utilizing an apertured electrode and a pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c 17 N73-24569
- Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524
- Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388
- ELECTROSTATIC CHARGE**  
Electrostatic charged particle analyzer having deflection members shaped according to the periodic voltage applied thereto Patent  
[NASA-CASE-XAC-05506-1] c 24 N71-16095
- Electrostatic measurement system --- for contact-electrifying a dielectric  
[NASA-CASE-MFS-22129-1] c 33 N75-18477
- Use of glow discharge in fluidized beds  
[NASA-CASE-ARC-11245-1] c 28 N82-18401
- Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083
- ELECTROSTATIC ENGINES**  
Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c 28 N70-33265
- Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422
- Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245
- Electrostatic ion rocket engine Patent  
[NASA-CASE-XLE-02066] c 28 N71-15661
- Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234
- ELECTROSTATIC GENERATORS**  
Electrostatic plasma modulator for space vehicle re-entry communication Patent  
[NASA-CASE-XLA-01400] c 07 N70-41331
- Closed loop electrostatic levitation system  
[NASA-CASE-NPO-15553-1] c 33 N85-29142
- ELECTROSTATIC PRECIPITATORS**  
Fine particulate capture device  
[NASA-CASE-LEW-11583-1] c 35 N79-17192
- Small conductive particle sensor --- microfiber size determination  
[NASA-CASE-LAR-12552-1] c 35 N82-11431
- ELECTROSTATIC PROBES**  
Apparatus for field strength measurement of a space vehicle Patent  
[NASA-CASE-XLE-00820] c 14 N71-16014
- Liquid-immersible electrostatic ultrasonic transducer  
[NASA-CASE-LAR-12465-1] c 33 N82-26572
- ELECTROSTATIC PROPULSION**  
Electrostatic thruster with improved insulators Patent  
[NASA-CASE-XLE-01902] c 28 N71-10574
- Annular slit colloid thruster Patent  
[NASA-CASE-GSC-10709-1] c 28 N71-25213
- ELECTROSTATIC SHIELDING**  
Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c 20 N77-10148
- Shielded conductor cable system  
[NASA-CASE-MSC-12745-1] c 33 N81-27397
- High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146
- ELECTROSTATICS**  
Controllable high voltage source having fast settling time  
[NASA-CASE-GSC-11844-1] c 33 N75-19522
- Electrostatic discharge test apparatus  
[NASA-CASE-MSC-21094-1] c 35 N88-24941
- ELECTROTHERMAL ENGINES**  
Electro-thermal rocket Patent  
[NASA-CASE-XLE-00267] c 28 N70-33356
- Electrothermal rockets having improved heat exchangers Patent  
[NASA-CASE-XLE-01783] c 28 N70-34175
- Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875
- ELEVATION**  
Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627
- Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067
- Elevated waterproof access floor system and method of making the same  
[NASA-CASE-ARC-11363-1] c 31 N87-16918
- ELEVATORS (LIFTS)**  
Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815
- Cable stabilizer for open shaft cable operated elevators  
[NASA-CASE-KSC-10513] c 15 N72-25453
- ELEVONS**  
High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088
- ELLIPSES**  
Ellipsograph for pantograph Patent  
[NASA-CASE-XLA-03102] c 14 N71-21079
- ELLIPSOIDOMETERS**  
Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c 43 N78-10529
- ELONGATION**  
Strain gauge measuring techniques Patent  
[NASA-CASE-XGS-04478] c 14 N71-24233
- Amplifying ribbon extensometer  
[NASA-CASE-LAR-11825-1] c 35 N77-22449
- ELUTION**  
Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844
- Electrophoretic fractional elution apparatus employing a rotational seal fraction collector  
[NASA-CASE-MFS-23284-1] c 37 N80-14397
- EMBRITTELEMENT**  
Method and apparatus for non-destructive testing of temper embrittlement in steels  
[NASA-CASE-LAR-13817-1] c 26 N88-29012
- EMERGENCIES**  
Silent emergency alarm system for schools and the like  
[NASA-CASE-NPO-11307-1] c 10 N73-30205
- Emergency space-suit helmet  
[NASA-CASE-MSC-10954-1] c 54 N78-18761
- Emergency egress fixed rocket package  
[NASA-CASE-MSC-21332-1] c 03 N89-11724
- EMERGENCY BREATHING TECHNIQUES**  
Resuscitation apparatus Patent  
[NASA-CASE-XMS-01115] c 05 N70-39922
- EMERGENCY LIFE SUSTAINING SYSTEMS**  
Orbital escape device Patent  
[NASA-CASE-XMS-06162] c 31 N71-28851
- Emergency lunar communications system  
[NASA-CASE-MFS-21042] c 07 N72-25171
- Emergency descent device  
[NASA-CASE-MFS-23074-1] c 54 N77-21844
- Personnel emergency carrier vehicle  
[NASA-CASE-KSC-11282-1] c 85 N87-21755
- EMERGENCY LOCATOR TRANSMITTERS**  
Legislated emergency locating transmitters and emergency position indicating radio beacons  
[NASA-CASE-GSC-12892-1] c 32 N89-14374
- EMISSION SPECTRA**  
Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871
- EMITTANCE**  
Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875
- EMITTERS**  
Coaxial inverted geometry transistor having buried emitter  
[NASA-CASE-ARC-10330-1] c 09 N73-32112
- EMULSIONS**  
Apparatus for obtaining isotropic irradiation of a specimen  
[NASA-CASE-MFS-20095] c 24 N72-11595
- ENAMELS**  
Refractory porcelain enamel passive control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c 27 N75-27160
- ENCAPSULATING**  
Bacteriostatic conformal coating and methods of application Patent  
[NASA-CASE-GSC-10007] c 18 N71-16046
- Flexible, repairable, pottable material for electrical connectors Patent  
[NASA-CASE-XGS-05180] c 18 N71-25881
- Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992
- Solar cell matrix  
[NASA-CASE-NPO-11190] c 03 N71-34044
- Method of making encapsulated solar cell modules  
[NASA-CASE-LEW-12185-1] c 44 N78-25528
- Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868
- Liquid encapsulated float zone process and apparatus  
[NASA-CASE-MFS-28144-1] c 76 N88-24545
- Multi-element spherical shell generation  
[NASA-CASE-NPO-17203-1-CU] c 34 N89-13728
- ENCLOSURES**  
Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436
- Totally confined explosive welding  
[NASA-CASE-LAR-10941-2] c 37 N79-13364
- Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213
- END EFFECTORS**  
Apparatus for adapting an end effector device remotely controlled manipulator arm  
[NASA-CASE-MFS-25949-1] c 37 N86-19603
- Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789
- Passively activated prehensile digit for a robotic end effector  
[NASA-CASE-NPO-16766-1-CU] c 37 N89-13785
- ENDOSCOPES**  
Borescope with variable angle scope  
[NASA-CASE-MFS-15162] c 14 N72-32452
- Apparatus for endoscopic examination --- analysis of the propulsion system configuration and transmitter  
[NASA-CASE-NPO-14092-1] c 52 N80-16725
- ENDOTHERMIC REACTIONS**  
Ablation sensor  
[NASA-CASE-XLA-01781] c 14 N69-39975
- ENEMY PERSONNEL**  
Intruder detection system  
[NASA-CASE-ARC-10097-2] c 07 N73-25160
- ENERGY ABSORPTION**  
Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c 15 N70-34861
- Energy absorbing structure Patent Application  
[NASA-CASE-MSC-12279-1] c 15 N70-35679
- Apparatus for absorbing and measuring power Patent  
[NASA-CASE-XLE-00720] c 14 N70-40201
- Shock absorber Patent  
[NASA-CASE-XMS-03722] c 15 N71-21530
- Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c 15 N71-22877
- Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146
- Energy absorption device Patent  
[NASA-CASE-XNP-01848] c 15 N71-28959
- Impact energy absorbing system utilizing fractureable material  
[NASA-CASE-NPO-10671] c 15 N72-20443
- Docking structure for spacecraft  
[NASA-CASE-MFS-20863] c 31 N73-26876
- Metal shearing energy absorber  
[NASA-CASE-HQN-10638-1] c 15 N73-30460
- ENERGY BANDS**  
Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836
- ENERGY CONSERVATION**  
Remote platform power conserving system  
[NASA-CASE-GSC-11182-1] c 15 N75-13007
- Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808
- ENERGY CONSUMPTION**  
Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709
- ENERGY CONVERSION**  
Two-fluid magnetohydrodynamic system and method for thermal-electric power conversion Patent  
[NASA-CASE-XNP-00644] c 03 N70-36803
- Device for directionally controlling electromagnetic radiation Patent  
[NASA-CASE-XLE-01716] c 09 N70-40234
- Electromagnetic wave energy converter  
[NASA-CASE-GSC-11394-1] c 09 N73-32109
- Electric power generation system directory from laser power  
[NASA-CASE-NPO-13308-1] c 36 N75-30524
- Mechanical thermal motor  
[NASA-CASE-MFS-23062-1] c 37 N77-12402

Low to high temperature energy conversion system  
[NASA-CASE-NPO-13510-1] c 44 N77-32581

Solar energy collection system  
[NASA-CASE-NPO-13810-1] c 44 N77-32582

**ENERGY CONVERSION EFFICIENCY**

Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898

Energy conversion apparatus Patent  
[NASA-CASE-XLE-00212] c 03 N70-34134

Electronic amplifier with power supply switching  
Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798

Energy storage apparatus  
[NASA-CASE-GSC-12030-1] c 44 N78-24608

Method of construction of a multi-cell solar array  
[NASA-CASE-MFS-23540-1] c 44 N79-26475

Self-reconfiguring solar cell system  
[NASA-CASE-LEW-12586-1] c 44 N80-14472

Efficiency of silicon solar cells containing chromium  
[NASA-CASE-NPO-15179-1] c 44 N82-26777

Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175

Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410

**ENERGY DISSIPATION**

Frangible tube energy dissipation Patent  
[NASA-CASE-XLA-00754] c 15 N70-34850

Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c 02 N77-10001

Motion restraining device  
[NASA-CASE-NPO-13619-1] c 37 N78-16369

**ENERGY DISTRIBUTION**

Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994

**ENERGY GAPS (SOLID STATE)**

High band gap 2-6 and 3-5 tunneling junctions for silicon multijunction solar cells  
[NASA-CASE-NPO-16526-1CU] c 44 N87-17399

Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894

**ENERGY LEVELS**

High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877

Low energy electron magnetometer using a monoenergetic electron beam  
[NASA-CASE-LAR-12706-1] c 35 N84-12444

**ENERGY POLICY**

Solar energy power system  
[NASA-CASE-MFS-21628-2] c 44 N76-23675

Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667

Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401

Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933

Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c 44 N77-32580

Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599

Solar pond  
[NASA-CASE-NPO-13581-2] c 44 N78-31525

Non-tracking solar energy collector system  
[NASA-CASE-NPO-13813-1] c 44 N78-31526

Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527

Primary reflector for solar energy collection systems  
[NASA-CASE-NPO-13579-4] c 44 N79-14529

Primary reflector for solar energy collection systems and method of making same  
[NASA-CASE-NPO-13579-3] c 44 N79-24432

Solar energy collection system  
[NASA-CASE-NPO-13579-2] c 44 N79-24433

Combined solar collector and energy storage system  
[NASA-CASE-LAR-12205-1] c 44 N80-20810

Wind wheel electric power generator  
[NASA-CASE-MFS-23515-1] c 44 N80-21828

Induced junction solar cell and method of fabrication  
[NASA-CASE-NPO-13786-1] c 44 N80-29835

Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518

Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558

Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475

Supercritical multicomponent solvent coal extraction  
[NASA-CASE-NPO-15767-1] c 23 N84-16255

**ENERGY SOURCES**

Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent  
[NASA-CASE-XGS-03632] c 09 N71-23311

Controllable high voltage source having fast settling time  
[NASA-CASE-GSC-11844-1] c 33 N75-19522

**ENERGY STORAGE**

Switching mechanism with energy storage means Patent  
[NASA-CASE-XGS-00473] c 03 N70-38713

Stored charge transistor  
[NASA-CASE-NPO-11156-2] c 33 N75-31331

Mechanical energy storage device for hip disarticulation  
[NASA-CASE-ARC-10916-1] c 52 N78-10686

Energy storage apparatus  
[NASA-CASE-GSC-12030-1] c 44 N78-24608

Rotatable mass for a flywheel  
[NASA-CASE-MFS-23051-1] c 37 N79-10422

Combined solar collector and energy storage system  
[NASA-CASE-LAR-12205-1] c 44 N80-20810

Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103

Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721

**ENERGY TECHNOLOGY**

Solar energy collection system  
[NASA-CASE-NPO-13810-1] c 44 N77-32582

Method for producing solar energy panels by automation  
[NASA-CASE-LEW-12541-1] c 44 N78-25529

Hydrogen-fueled engine  
[NASA-CASE-NPO-13763-1] c 44 N78-33526

Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152

Back wall solar cell  
[NASA-CASE-LEW-12236-2] c 44 N79-14528

Solar cell module assembly jig  
[NASA-CASE-XGS-00829-1] c 44 N79-19447

Solar energy collection system  
[NASA-CASE-NPO-13579-2] c 44 N79-24433

Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473

Method for forming a solar array strip  
[NASA-CASE-NPO-13652-3] c 44 N80-14474

**ENERGY TRANSFER**

Solar energy absorber  
[NASA-CASE-MFS-22743-1] c 44 N76-22657

Gas particle radiator  
[NASA-CASE-LEW-14297-1] c 35 N89-12048

**ENGINE ANALYZERS**

Indicated mean-effective pressure instrument  
[NASA-CASE-LEW-12661-1] c 35 N79-14345

**ENGINE CONTROL**

Regenerative braking system Patent  
[NASA-CASE-XMF-01096] c 10 N71-16030

Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-12930

Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-14318

Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115

Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603

Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681

**ENGINE COOLANTS**

Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535

Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMF-00148] c 28 N70-38710

**ENGINE DESIGN**

Gas turbine combustion apparatus Patent  
[NASA-CASE-XLE-103477-1] c 28 N71-20330

Construction and method of arranging a plurality of ion engines to form a cluster Patent  
[NASA-CASE-XNP-02923] c 28 N71-23081

Space vehicle system  
[NASA-CASE-MSC-12561-1] c 18 N76-17185

Solid propellant motor  
[NASA-CASE-NPO-11458A] c 20 N78-32179

Hydrogen-fueled engine  
[NASA-CASE-NPO-13763-1] c 44 N78-33526

Method and apparatus for rapid thrust increases in a turbofan engine  
[NASA-CASE-LEW-12971-1] c 07 N80-18039

Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790

Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432

Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370

**ENGINE FAILURE**

Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640

System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20518

Airplane automatic control force trimming device for asymmetric engine failures  
[NASA-CASE-LAR-13280-1] c 08 N87-20999

**ENGINE INLETS**

Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270

The engine air intake system  
[NASA-CASE-ARC-10761-1] c 07 N77-18154

Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976

**ENGINE MONITORING INSTRUMENTS**

System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20518

**ENGINE NOISE**

Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270

Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055

Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800

Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884

**ENGINE PARTS**

Gas turbine engine with convertible accessories  
[NASA-CASE-LEW-12390-1] c 07 N78-17056

Gas path seal  
[NASA-CASE-NPO-12131-3] c 37 N80-18400

Method of protecting a surface with a silicon-slurry/aluminate coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441

Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978

Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981

**ENGINE STARTERS**

Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599

**ENGINE TESTS**

Electric propulsion engine test chamber Patent  
[NASA-CASE-XLE-00252] c 11 N70-34844

**ENGINEERING DRAWINGS**

High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817

Lifting body Patent Application  
[NASA-CASE-FRC-10063] c 01 N71-12217

Optical communications system Patent  
[NASA-CASE-XLA-01090] c 07 N71-12389

Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986

**ENTHALPY**

Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
[NASA-CASE-XLE-00266] c 14 N70-34156

**ENTRAINMENT**

Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345

**ENUMERATION**

Apparatus and process for microbial detection and enumeration  
[NASA-CASE-LAR-12709-1] c 35 N82-28604

**ENVIRONMENT SIMULATION**

Skeletal stressing method and apparatus Patent  
[NASA-CASE-ARC-10100-1] c 05 N71-24738

Locomotion and restraint aid Patent  
[NASA-CASE-ARC-10153] c 05 N71-28619

**ENVIRONMENT SIMULATORS**

Space simulator Patent  
[NASA-CASE-NPO-10141] c 11 N71-24964

**ENVIRONMENTAL CONTROL**

Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203

Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721

Thermal control panel Patent  
[NASA-CASE-XLA-07728] c 33 N71-22890

Dual solid cryogen for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725

Active vibration isolator for flexible bodies Patent  
[NASA-CASE-LAR-10106-1] c 15 N71-27169

- Autoignition test cell Patent  
[NASA-CASE-KSC-10198] c 11 N71-28629
- Universal environment package with sectional component housing  
[NASA-CASE-KSC-10031] c 15 N72-22486
- Air conditioned suit  
[NASA-CASE-LAR-10076-1] c 05 N73-20137
- Dual stage check valve  
[NASA-CASE-MS-13587-1] c 15 N73-30459
- Space vehicle with artificial gravity and earth-like environment  
[NASA-CASE-LEW-11101-1] c 31 N73-32750
- ENVIRONMENTAL ENGINEERING**
- Thermal control wall panel Patent  
[NASA-CASE-XLA-01243] c 33 N71-22792
- ENVIRONMENTAL MONITORING**
- System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603
- Vapor fragrancier  
[NASA-CASE-LAR-13680-1] c 35 N87-25561
- ENVIRONMENTAL TESTS**
- Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent  
[NASA-CASE-XMS-02930] c 11 N71-23042
- Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161
- Flammability test chamber Patent  
[NASA-CASE-KSC-10126] c 11 N71-24985
- Multi axes vibration fixtures  
[NASA-CASE-MFS-20242] c 14 N73-19421
- Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081
- ENVIRONMENTS**
- Hermetically sealed elbow actuator  
[NASA-CASE-MFS-14710] c 09 N72-22195
- ENZYME ACTIVITY**
- Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487
- Method of detecting and counting bacteria in body fluids  
[NASA-CASE-GSC-11092-2] c 04 N73-27052
- ENZYMES**
- Protein sterilization method of firefly luciferase using reduced pressure and molecular sieves  
[NASA-CASE-GSC-10225-1] c 06 N73-27086
- EPICYCLOIDS**
- Sequencing device utilizing planetary gear set  
[NASA-CASE-MS-19514-1] c 37 N79-20377
- EPITAXY**
- Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910
- Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112
- Method of making macrocrystalline or single crystal semiconductor material  
[NASA-CASE-NPO-15904-1] c 76 N86-28760
- Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879
- EPOXY COMPOUNDS**
- Synthesis of siloxane-containing epoxy polymers Patent  
[NASA-CASE-MFS-13994-1] c 06 N71-11240
- Siloxane containing epoxide compounds  
[NASA-CASE-MFS-13994-2] c 06 N72-25148
- Fire protection covering for small diameter missiles  
[NASA-CASE-ARC-11104-1] c 15 N79-26100
- Antenna groud replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043
- EPOXY MATRIX COMPOSITES**
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451
- EPOXY RESINS**
- Non-magnetic battery case Patent  
[NASA-CASE-XGS-00886] c 03 N71-11053
- Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974
- Hydroforming techniques using epoxy molds Patent  
[NASA-CASE-XLE-05641-1] c 15 N71-26346
- Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334
- Epoxy-aziridine polymer product Patent  
[NASA-CASE-NPO-10701] c 06 N71-28620
- Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c 24 N74-30001
- Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c 27 N76-16230
- Curing agent for polyepoxides and epoxy resins and composites cured therewith --- preventing carbon fiber release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260
- Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039
- Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213
- Process for improving mechanical properties of epoxy resins by addition of cobalt ions  
[NASA-CASE-LAR-13230-1] c 24 N84-34571
- Metal (2) 4,4',4'',4''' phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- Process for improving moisture resistance of epoxy resins by addition of chromium ions  
[NASA-CASE-LAR-13226-1] c 27 N85-34282
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380
- Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613
- Aminophenoxycyclotriphosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469
- EQUATIONS OF MOTION**
- Kinesimetric method and apparatus  
[NASA-CASE-MS-18929-1] c 39 N83-20280
- EQUIPMENT**
- Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126
- Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
[NASA-CASE-GSC-12191-1] c 31 N80-32583
- EQUIPMENT SPECIFICATIONS**
- Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816
- High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817
- Optical torquemeter Patent  
[NASA-CASE-XLE-00503] c 14 N70-34818
- Magnetically centered liquid column float Patent  
[NASA-CASE-XAC-00030] c 14 N70-34820
- Electric propulsion engine test chamber Patent  
[NASA-CASE-XLE-00252] c 11 N70-34844
- Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860
- Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c 15 N70-34861
- Slit regulated gas journal bearing Patent  
[NASA-CASE-XNP-00476] c 15 N70-38620
- Optical communications system Patent  
[NASA-CASE-XLA-01090] c 07 N71-12389
- Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159
- Rocket thrust throttling system  
[NASA-CASE-LEW-10374-1] c 28 N73-13773
- Process for making diamonds  
[NASA-CASE-MFS-20698-2] c 15 N73-19457
- Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c 09 N74-19528
- Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c 34 N74-27744
- Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c 35 N76-15434
- Field effect transistor and method of construction thereof  
[NASA-CASE-MFS-23312-1] c 33 N78-27326
- Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072
- Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689
- Improved method and apparatus for waste collection and storage  
[NASA-CASE-MS-21025-1] c 31 N87-25495
- Electrostatic discharge test apparatus  
[NASA-CASE-MS-21094-1] c 35 N88-24941
- EQUIPOTENTIALS**
- Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195
- Instrument for measuring potentials on two dimensional electric field plots Patent  
[NASA-CASE-XLA-08493] c 10 N71-19421
- ERGOMETERS**
- Restraint system for ergometer  
[NASA-CASE-MFS-21046-1] c 14 N73-27377
- Ergometer  
[NASA-CASE-MFS-21109-1] c 05 N73-27941
- Tilting table for ergometer and for other biomedical devices  
[NASA-CASE-MFS-21010-1] c 05 N73-30078
- Foot pedal operated fluid type exercising device  
[NASA-CASE-MS-11561-1] c 05 N73-32014
- Ergometer calibrator --- for any ergometer utilizing rotating shaft  
[NASA-CASE-MFS-21045-1] c 35 N75-15932
- EROSION**
- Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206
- ERROR ANALYSIS**
- Program for computer aided reliability estimation  
[NASA-CASE-NPO-13086-1] c 15 N73-12495
- Bit error rate measurement above and below bit rate tracking threshold  
[NASA-CASE-MS-12743-1] c 32 N79-10263
- Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076
- ERROR CORRECTING CODES**
- Error correction method and apparatus for electronic timepieces  
[NASA-CASE-LAR-12654-1] c 33 N83-36357
- Self-correcting electronically scanned pressure sensor  
[NASA-CASE-LAR-12686-1] c 35 N84-14491
- Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021
- Reed-Solomon decoder  
[NASA-CASE-NPO-15982-1] c 60 N87-21591
- Processing circuit with asymmetry corrector and convolutional encoder for digital data  
[NASA-CASE-MS-20187-1] c 33 N87-25531
- ERROR CORRECTING DEVICES**
- Automatic fault correction system for parallel signal channels Patent  
[NASA-CASE-XNP-03263] c 09 N71-18843
- Elimination of frequency shift in a multiplex communication system Patent  
[NASA-CASE-XNP-01306] c 07 N71-20814
- Error correcting method and apparatus Patent  
[NASA-CASE-XNP-02748] c 08 N71-22749
- Failure detection and control means for improved drift performance of a gimbaled platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175
- Guide for a typewriter  
[NASA-CASE-MFS-15218-1] c 37 N77-19457
- ERROR DETECTION CODES**
- Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633
- Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021
- ERROR SIGNALS**
- Automatic fault correction system for parallel signal channels Patent  
[NASA-CASE-XNP-03263] c 09 N71-18843
- Sampled data controller Patent  
[NASA-CASE-GSC-10554-1] c 08 N71-29033
- Bit error rate measurement above and below bit rate tracking threshold  
[NASA-CASE-MS-12743-1] c 32 N79-10263
- Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190
- Automated weld torch guidance control system  
[NASA-CASE-MFS-25807-2] c 37 N86-21850
- Comparator with noise suppression  
[NASA-CASE-LAR-13151-1] c 33 N87-21235
- ERRORS**
- Analog-to-digital converter  
[NASA-CASE-MS-13110-1] c 08 N72-22163
- Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138
- A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220
- Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841
- ESCAPE CAPSULES**
- Aerial capsule emergency separation device Patent  
[NASA-CASE-XLA-00115] c 03 N70-33343
- Emergency escape system Patent  
[NASA-CASE-XKS-02342] c 05 N71-11199
- Emergency earth orbital escape device  
[NASA-CASE-MS-13281] c 31 N72-18859
- ESCAPE SYSTEMS**
- Emergency escape system Patent  
[NASA-CASE-MS-12086-1] c 05 N71-12345
- Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067
- Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992



## ESCHERICHIA

## ESCHERICHIA

Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849

## ESTERS

Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098

## ESTIMATING

Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076

## ETCHING

Masking device Patent  
[NASA-CASE-XNP-02092] c 15 N70-42033

Method for etching copper Patent  
[NASA-CASE-XGS-06306] c 17 N71-16044

High resolution developing of photosensitive resists Patent  
[NASA-CASE-XGS-04993] c 14 N71-17574

Etching of aluminum for bonding Patent  
[NASA-CASE-XMF-02303] c 17 N71-23828

Selective plating of etched circuits without removing previous plating Patent  
[NASA-CASE-XGS-03120] c 15 N71-24047

Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c 17 N71-24830

Scanning nozzle plating system for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c 31 N74-23065

Method for applying photographic resists to otherwise incompatible substrates  
[NASA-CASE-MSC-18107-1] c 27 N81-25209

Method of making V-MOS field effect transistors utilizing a two-step anisotropic etching and ion implantation  
[NASA-CASE-GSC-12515-1] c 33 N81-26360

Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441

Controlled in situ etch-back  
[NASA-CASE-NPO-15625-1] c 76 N83-20789

Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095

Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160

## ETHANE

The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312

## ETHERS

Method of producing alternating ether siloxane copolymers Patent  
[NASA-CASE-XMF-02584] c 06 N71-20905

Hydroxy terminated perfluoro ethers Patent  
[NASA-CASE-NPO-10768] c 06 N71-27254

Polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c 06 N72-27144

Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641

Separator for alkaline electric cells and method of making  
[NASA-CASE-GSC-10017-1] c 44 N82-24643

Perfluoro (Imidoylamidine) diamidines  
[NASA-CASE-ARC-11402-3] c 23 N86-21582

Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526

## ETHYL COMPOUNDS

Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491

Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-1] c 27 N84-22747

The 5-(4-Ethynylphenoxy) isophthalic chloride  
[NASA-CASE-LAR-13316-2] c 27 N87-14515

## ETHYLENE OXIDE

Process for preparing sterile solid propellants Patent  
[NASA-CASE-XNP-01749] c 27 N70-41897

Processing for producing a sterilized instrument Patent  
[NASA-CASE-XNP-09763] c 14 N71-20461

System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724

## EUTECTIC ALLOYS

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c 37 N75-15992

Method of growing composites of the type exhibiting the Soret effect --- improved structure of eutectic alloy crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187

Directionally solidified eutectic gamma plus beta nickel-base superalloys  
[NASA-CASE-LEW-12906-1] c 26 N77-32279

Directionally solidified eutectic gamma-gamma nickel-base superalloys

[NASA-CASE-LEW-12905-1] c 26 N78-18183

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide

[NASA-CASE-GSC-11577-3] c 24 N79-25143

## EVACUATING (VACUUM)

Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322

Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23256

Leak detector wherein a probe is monitored with ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c 15 N71-24896

Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c 31 N75-13111

## EVAPORATION

Evaporant holder  
[NASA-CASE-XLA-03105] c 15 N69-27483

Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846

## EVAPORATIVE COOLING

Tubular sublimatory evaporator heat sink  
[NASA-CASE-ARC-10912-1] c 34 N77-19353

Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

## EVAPORATORS

Evaporant source for vapor deposition Patent  
[NASA-CASE-XMF-06065] c 15 N71-20395

Deposition apparatus  
[NASA-CASE-LAR-10541-1] c 15 N72-32487

Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461

Multi-leg heat pipe evaporator  
[NASA-CASE-MSC-20812-1] c 34 N86-27593

## EXAMINATION

Apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
[NASA-CASE-MFS-23315-1] c 76 N78-24950

Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594

## EXCHANGING

Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360

## EXCITATION

Trochoidal analysis of scattered electrons in a merged electron-ion beam  
[NASA-CASE-NPO-16789-1-CU] c 72 N88-25281

## EXCLUSION

Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090

## EXHAUST EMISSION

Apparatus and method for destructive removal of particles contained in flowing fluid  
[NASA-CASE-NPO-15426-1] c 35 N84-17555

## EXHAUST GASES

Device for suppressing sound and heat produced by high-velocity exhaust jets Patent  
[NASA-CASE-XMF-01813] c 28 N70-41582

Gas turbine exhaust nozzle --- for noise reduction  
[NASA-CASE-LEW-11569-1] c 07 N74-15453

Abating exhaust noises in jet engines  
[NASA-CASE-ARC-10712-1] c 07 N74-33218

Exhaust flow deflector --- for ducted gas flow  
[NASA-CASE-LAR-11570-1] c 34 N76-18364

Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089

High performance ammonium nitrate propellant  
[NASA-CASE-NPO-14260-1] c 28 N79-28342

Supercritical fuel injection system  
[NASA-CASE-LEW-12990-1] c 07 N81-29129

## EXHAUST NOZZLES

Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c 28 N70-33284

Nozzle Patent  
[NASA-CASE-XLA-00154] c 28 N70-33374

Penshape exhaust nozzle for supersonic engine Patent  
[NASA-CASE-XLE-00057] c 28 N70-38711

Ejection unit Patent  
[NASA-CASE-XNP-00676] c 15 N70-38996

Two dimensional wedge/translating shroud nozzle  
[NASA-CASE-LAR-11919-1] c 07 N78-27121

Variable area exhaust nozzle  
[NASA-CASE-LEW-12378-1] c 07 N79-14097

Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884

Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873

## EXOTHERMIC REACTIONS

Ambient cure polyimide foams --- thermal resistant foams  
[NASA-CASE-ARC-11170-1] c 27 N79-11215

Exothermic furnace module  
[NASA-CASE-MFS-25707-1] c 35 N82-26631

Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461

## EXPANDABLE STRUCTURES

Connector strips-positive, negative and T tabs  
[NASA-CASE-XGS-01395] c 03 N69-21539

Reflector space satellite Patent  
[NASA-CASE-XLA-00138] c 31 N70-37981

Foldable conduit Patent  
[NASA-CASE-XLE-00620] c 32 N70-41579

Collapsible high gain antenna  
[NASA-CASE-KSC-10392] c 07 N73-26117

Expandable space frames  
[NASA-CASE-ERC-10365-1] c 31 N73-32749

Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
[NASA-CASE-LAR-10168-1] c 33 N74-22865

Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183

Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1] c 37 N86-25789

Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706

Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492

## EXPANSION

Apparatus for measuring swelling characteristics of membranes  
[NASA-CASE-XGS-03865] c 14 N69-21363

Method for alleviating thermal stress damage in laminates  
[NASA-CASE-LEW-12493-2] c 24 N81-26179

Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

## EXPERIMENT DESIGN

Hydrofoil Patent  
[NASA-CASE-XLA-00229] c 12 N70-33305

Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051

Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193

G conditioning suit Patent  
[NASA-CASE-XLA-02898] c 05 N71-20268

Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161

## EXPIRED AIR

Metabolic rate meter and method  
[NASA-CASE-MSC-12239-1] c 52 N79-21750

## EXPLOSIONS

Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484

## EXPLOSIVE DEVICES

Tubular coupling having frangible connecting means  
[NASA-CASE-XLA-02854] c 15 N69-27490

Hermetically sealed explosive release mechanism Patent  
[NASA-CASE-XGS-00824] c 15 N71-16078

Nonmagnetic, explosive actuated indexing device Patent  
[NASA-CASE-XGS-02422] c 15 N71-21529

Linear explosive comparison  
[NASA-CASE-LAR-10800-1] c 33 N72-27959

Disconnect unit  
[NASA-CASE-NPO-11330] c 33 N73-26958

Pressure limiting propellant actuating system  
[NASA-CASE-MSC-18179-1] c 20 N80-18097

Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

## EXPLOSIVE FORMING

Electrical discharge apparatus for forming Patent  
[NASA-CASE-XMF-00375] c 15 N70-34249

## EXPLOSIVE WELDING

Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c 37 N74-21057

Method of making an explosively welded scarf joint  
[NASA-CASE-LAR-11211-1] c 37 N75-12326

Totally confined explosive welding  
[NASA-CASE-LAR-10941-2] c 37 N79-13364

Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359

## EXPLOSIVES

Synthesis of superconducting compounds by explosive compaction of powders  
[NASA-CASE-MFS-20861-1] c 18 N73-32437

Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c 28 N74-27425

Electroexplosive device  
[NASA-CASE-NPO-13858-1] c 28 N79-11231

**EXPONENTIAL FUNCTIONS**  
Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c 08 N72-20176

**EXPOSURE**  
Exposure interlock for oscilloscope cameras  
[NASA-CASE-LAR-10319-1] c 14 N73-32322  
Selective image area control of X-ray film exposure density  
[NASA-CASE-NPO-13808-1] c 35 N78-15461  
Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081

**EXPULSION**  
Electro-expulsive separation system  
[NASA-CASE-LAR-11613-1] c 33 N87-28833

**EXPULSION BLADDERS**  
Expulsion bladder-equipped storage tank structure Patent  
[NASA-CASE-XNP-00612] c 11 N70-38182

**EXTENSIONS**  
Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701

**EXTENSOMETERS**  
Extensometer frame  
[NASA-CASE-XLA-10322] c 15 N72-17452  
Conductive elastomeric extensometer  
[NASA-CASE-MFS-21049-1] c 52 N74-27864  
Amplifying ribbon extensometer  
[NASA-CASE-LAR-11825-1] c 35 N77-22449  
Laser extensometer  
[NASA-CASE-MFS-19259-1] c 36 N78-14380  
Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375

**EXTERNAL COMBUSTION ENGINES**  
Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370

**EXTERNAL STORE SEPARATION**  
Slide release mechanism --- for space shuttle orbiter/external tank connection device  
[NASA-CASE-MSC-20080-1] c 37 N85-30334  
Remote pivot decoupler pylon: Wing/store flutter suppressor  
[NASA-CASE-LAR-13173-1] c 05 N87-14314

**EXTERNAL STORES**  
Decoupler pylon: wing/store flutter suppressor  
[NASA-CASE-LAR-12468-1] c 08 N82-32373

**EXTERNAL TANKS**  
Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784  
Slide release mechanism --- for space shuttle orbiter/external tank connection device  
[NASA-CASE-MSC-20080-1] c 37 N85-30334

**EXTRACTION**  
Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062  
Chassis unit insert tightening-extract device  
[NASA-CASE-XMS-01077-1] c 37 N79-33467  
Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709

**EXTRAVEHICULAR ACTIVITY**  
Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203  
Hand-held self-maneuvering unit Patent  
[NASA-CASE-XMS-05304] c 05 N71-12336  
Serpentuator Patent  
[NASA-CASE-XMF-05344] c 31 N71-16345  
Fastener apparatus Patent  
[NASA-CASE-ARC-10140-1] c 15 N71-17653  
Extravehicular tunnel suit system Patent  
[NASA-CASE-MSC-12243-1] c 05 N71-24728  
Life support system  
[NASA-CASE-MSC-12411-1] c 05 N72-20096  
Space suit  
[NASA-CASE-MSC-12609-1] c 05 N73-32012  
Absorbent product and articles made therefrom  
[NASA-CASE-MSC-18223-2] c 54 N84-11758

**EXTREMELY LOW RADIO FREQUENCIES**  
VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614

**EXTRUDING**  
Extrusion can  
[NASA-CASE-NPO-10812] c 15 N73-13464  
Brazing alloy binder  
[NASA-CASE-XMF-05868] c 26 N75-27125  
Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154

**EYE (ANATOMY)**  
Sight switch using an infrared source and sensor Patent  
[NASA-CASE-XMF-03934] c 09 N71-22985

Ophthalmic method and apparatus  
[NASA-CASE-LEW-11669-1] c 05 N73-27062

Corneal seal device  
[NASA-CASE-LEW-12258-1] c 52 N77-28716

Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12723-1] c 52 N80-18690

Chromatically corrected virtual image visual display --- reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185

Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874

**EYE DISEASES**  
Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874

**EYE EXAMINATIONS**  
Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c 05 N73-26072  
Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c 54 N75-27759  
Visual examination apparatus  
[US-PATENT-RE-28,921] c 52 N76-30793

**EYEPIECES**  
Wide angle long eye relief eyepiece Patent  
[NASA-CASE-XMS-06056-1] c 23 N71-24857

## F

## FABRICATION

Pressure variable capacitor  
[NASA-CASE-XNP-09752] c 14 N69-21541

Method of making a regeneratively cooled combustion chamber Patent  
[NASA-CASE-XLE-00150] c 28 N70-41818

Solar cell submodule Patent  
[NASA-CASE-XNP-05821] c 03 N71-11056

Capacitor and method of making same Patent  
[NASA-CASE-LEW-10364-1] c 09 N71-13522

Solar panel fabrication Patent  
[NASA-CASE-XNP-03413] c 03 N71-26726

Method of forming a root cord restrained convolute section  
[NASA-CASE-MSC-12398] c 05 N72-20098

Method of removing insulated material from insulated wires  
[NASA-CASE-FRC-10038] c 15 N72-20444

Thin film temperature sensor and method of making same  
[NASA-CASE-NPO-11775] c 26 N72-28761

Fabrication of polycrystalline solar cells on low-cost substrates  
[NASA-CASE-GSC-12022-1] c 44 N76-28635

Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933

Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262

Solar array strip and a method for forming the same  
[NASA-CASE-NPO-13652-1] c 44 N79-17314

Method for fabricating solar cells having integrated collector grits  
[NASA-CASE-LEW-12819-2] c 44 N79-18444

Bonding machine for forming a solar array strip  
[NASA-CASE-NPO-13652-2] c 44 N79-24431

Method for forming a solar array strip  
[NASA-CASE-NPO-13652-3] c 44 N80-14474

Induced junction solar cell and method of fabrication  
[NASA-CASE-NPO-13786-1] c 44 N80-29835

Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558

Heat exchanger and method of making  
[NASA-CASE-LEW-12441-3] c 44 N81-24519

Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545

Method of Fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780

Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708

Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709

Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176

Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350

Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940

Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734

High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436

GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150

Method of fabricating an imaging X-ray spectrometer  
[NASA-CASE-GSC-12956-1] c 35 N87-14671

Miniature traveling wave tube and method of making  
[NASA-CASE-LEW-14520-1] c 33 N88-23936

Nozzle fabrication technique  
[NASA-CASE-MSC-21299-1] c 20 N88-24684

Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946

Multi-element spherical shell generation  
[NASA-CASE-NPO-17203-1-CU] c 34 N89-13728

**FABRICS**  
Method of forming a root cord restrained convolute section  
[NASA-CASE-MSC-12398] c 05 N72-20098

Amplifying ribbon extensometer  
[NASA-CASE-LAR-11825-1] c 35 N77-22449

Nozzle extraction process and handlemeter for measuring handle  
[NASA-CASE-LAR-12147-1] c 31 N79-11246

Composition and method for making polyimide resin-reinforced fabric  
[NASA-CASE-LEW-12933-1] c 27 N81-19296

Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238

Adjustable high emittance gap filler --- reentry shielding for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339

Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MSC-18223-1] c 24 N82-29362

High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908

Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324

Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125

Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672

Hazards protection for space suits and spacecraft  
[NASA-CASE-MSC-21366-1] c 54 N89-12206

**FABRY-PEROT INTERFEROMETERS**  
Retrodirective optical system  
[NASA-CASE-XGS-04480] c 16 N69-27491

**FACSIMILE COMMUNICATION**  
Facsimile video remodulation network  
[NASA-CASE-GSC-10185-1] c 07 N72-12081

Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c 35 N75-19613

**FACTORIAL DESIGN**  
Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194

Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195

**FAIL-SAFE SYSTEMS**  
Failsafe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c 09 N72-25262

Latch mechanism  
[NASA-CASE-MSC-12549-1] c 37 N74-27903

Safety flywheel --- using flexible materials energy storage  
[NASA-CASE-HQN-10888-1] c 44 N79-14527

Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254

Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115

Reconfiguring redundancy management  
[NASA-CASE-MSC-18498-1] c 60 N82-29013

**FAILURE ANALYSIS**  
Fatigue failure load indicator  
[NASA-CASE-LAR-12027-1] c 39 N79-22537

Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333

**FAILURE MODES**  
High speed rolling element bearing  
[NASA-CASE-LEW-10856-1] c 15 N72-22490

Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c 35 N74-18090

Method of insetting predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258

**FAIRINGS**  
Method and system for ejecting fairing sections from a rocket vehicle  
[NASA-CASE-GSC-10590-1] c 31 N73-14853



## FALLING SPHERES

Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288

## FALLING SPHERES

Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587

## FAR INFRARED RADIATION

Collimator of multiple plates with axially aligned identical random arrays of apertures  
[NASA-CASE-MFS-20546-2] c 14 N73-30389  
Method and means for generation of tunable laser sidebands in the far-infrared region  
[NASA-CASE-NPO-16497-1-CU] c 36 N87-25567

## FAR ULTRAVIOLET RADIATION

Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641

## FARADAY EFFECT

Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15381

## FAST FOURIER TRANSFORMATIONS

Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651

## FASTENERS

Force measuring instrument Patent  
[NASA-CASE-XMF-00456] c 14 N70-34705  
Life preserver Patent  
[NASA-CASE-XMS-00864] c 05 N70-36493  
All-directional fastener Patent  
[NASA-CASE-XLA-01807] c 15 N71-10799  
Fastener apparatus Patent  
[NASA-CASE-ARC-10140-1] c 15 N71-17653  
Methods and apparatus employing vibratory energy for wrenching Patent  
[NASA-CASE-MFS-20586] c 15 N71-17686  
Coaxial cable connector Patent  
[NASA-CASE-XNP-04732] c 09 N71-20851  
Latching mechanism Patent  
[NASA-CASE-XMS-03745] c 15 N71-21076  
Central spar and module joint Patent  
[NASA-CASE-XNP-02341] c 15 N71-21531  
Threadless fastener apparatus Patent  
[NASA-CASE-XFR-05302] c 15 N71-23254  
Flexibly connected support and skin Patent  
[NASA-CASE-XLA-01027] c 31 N71-24035  
Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975  
Helmet latching and attaching ring  
[NASA-CASE-XMS-04670] c 54 N78-17678  
Chassis unit insert tightening-extract device  
[NASA-CASE-XMS-01077-1] c 37 N79-33467  
One-step dual purpose joining technique  
[NASA-CASE-LAR-12595-1] c 33 N82-26571  
Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673  
Daze fasteners  
[NASA-CASE-LAR-13009-1] c 37 N85-29285  
Mechanical fastener  
[NASA-CASE-LAR-12738-2] c 37 N85-30335  
Daze fasteners  
[NASA-CASE-LAR-13009-2] c 37 N87-22976  
Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

## FATIGUE (MATERIALS)

Strain coupled servo control system Patent  
[NASA-CASE-XLA-08530] c 32 N71-25360  
TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c 39 N78-16387

## FATIGUE LIFE

Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505  
Method of improving the reliability of a rolling element system Patent  
[NASA-CASE-XLE-02999] c 15 N71-16052  
High speed rolling element bearing  
[NASA-CASE-LEW-10856-1] c 15 N72-22490  
High speed hybrid bearing comprising a fluid bearing and a rolling bearing connected in series  
[NASA-CASE-LEW-11152-1] c 15 N73-32359  
Machine for use in monitoring fatigue life for a plurality of elastomeric specimens  
[NASA-CASE-NPO-13731-1] c 39 N78-10493

## FATIGUE TESTING MACHINES

Horizontal cryostat for fatigue testing Patent  
[NASA-CASE-XMF-10968] c 14 N71-24234  
Light shield and infrared reflector for fatigue testing Patent  
[NASA-CASE-XLA-01782] c 14 N71-26136  
Fatigue testing a plurality of test specimens and method  
[NASA-CASE-MFS-28118-1] c 39 N87-25601

## FATIGUE TESTS

Fatigue testing device Patent  
[NASA-CASE-XLA-02131] c 32 N70-42003  
Fatigue failure load indicator  
[NASA-CASE-LAR-12027-1] c 39 N79-22537

Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221

## FATS

Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-2] c 27 N77-31308

## FAULT TOLERANCE

Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

## FECEES

Relief container  
[NASA-CASE-XMS-06761] c 05 N69-23192  
Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495

## FEED SYSTEMS

Plasma device feed system Patent  
[NASA-CASE-XLE-02902] c 25 N71-21694  
Propellant tank pressurization system Patent  
[NASA-CASE-XNP-00650] c 27 N71-28929  
Liquid waste feed system  
[NASA-CASE-LAR-10365-1] c 05 N72-27102  
Pressurized lighting system  
[NASA-CASE-KSC-10644] c 09 N72-27227  
Dual frequency microwave reflex feed  
[NASA-CASE-NPO-13091-1] c 09 N73-12214  
Injector for use in high voltage isolators for liquid feed lines  
[NASA-CASE-NPO-11377] c 15 N73-27406  
Supercharged topping rocket propellant feed system  
[NASA-CASE-XLE-02062-1] c 20 N80-14188  
Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
[NASA-CASE-NPO-14382-1] c 31 N80-18231  
Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154  
Constant-output atomizer --- Inhalation therapy and aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406

## FEEDBACK

Active RC networks  
[NASA-CASE-ARC-10020] c 10 N72-17172  
Feedback shift register with states decomposed into cycles of equal length  
[NASA-CASE-NPO-11082] c 08 N72-22167  
Inverter oscillator with voltage feedback  
[NASA-CASE-NPO-10760] c 09 N72-25254

## FEEDBACK AMPLIFIERS

Radiometric temperature reference Patent  
[NASA-CASE-MSC-13276-1] c 14 N71-27058  
Compensating bandwidth switching transients in an amplifier circuit Patent  
[NASA-CASE-XNP-01107] c 10 N71-28859  
Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MSC-13492-1] c 10 N71-28860

## FEEDBACK CIRCUITS

Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317  
Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503  
Frequency control network for a current feedback oscillator Patent  
[NASA-CASE-GSC-10041-1] c 10 N71-19418  
Feedback integrator with grounded capacitor Patent  
[NASA-CASE-XAC-10607] c 10 N71-23669  
Parametric amplifiers with idler circuit feedback  
[NASA-CASE-LAR-10253-1] c 09 N72-25258  
Pseudonoise sequence generators with three tap linear feedback shift registers  
[NASA-CASE-NPO-11406] c 08 N73-12175  
Logarithmic circuit with wide dynamic range  
[NASA-CASE-GSC-12145-1] c 33 N78-32339  
Automatic level control circuit  
[NASA-CASE-KSC-11170-1] c 33 N83-36356

## FEEDBACK CONTROL

Nonlinear analog-to-digital converter Patent  
[NASA-CASE-XAC-04031] c 08 N71-18594  
Pulse-type magnetic core memory element circuit with blocking oscillator feedback Patent  
[NASA-CASE-XGS-03303] c 08 N71-18595  
BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890  
A dc motor speed control system Patent  
[NASA-CASE-MFS-14610] c 09 N71-28886  
Sampled data controller Patent  
[NASA-CASE-GSC-10554-1] c 08 N71-29033  
A dc servosystem including an ac motor Patent  
[NASA-CASE-NPO-10700] c 07 N71-33613  
Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004  
Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c 33 N74-11049

Diffused waveguiding capillary tube with distributed feedback for a gas laser  
[NASA-CASE-NPO-13544-1] c 36 N76-18428

The dc-to-dc converters employing staggered-phase power switches with two-loop control  
[NASA-CASE-NPO-13512-1] c 33 N77-10428  
System and method for tracking a signal source --- employing feedback control  
[NASA-CASE-HQN-10880-1] c 17 N78-17140  
Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237  
Wide power range microwave feedback controller  
[NASA-CASE-GSC-12146-1] c 33 N78-32340  
Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583  
Variable speed drive  
[NASA-CASE-GSC-12643-1] c 37 N83-26078  
Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421  
Three phase power factor controller  
[NASA-CASE-MFS-25535-2] c 33 N84-22885  
Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661  
Closed loop electrostatic levitation system  
[NASA-CASE-NPO-15553-1] c 33 N85-29142  
Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333  
Closed loop fiber optic rotation sensor  
[NASA-CASE-NPO-16558-1-CU] c 74 N87-23259

## FEEDBACK FREQUENCY MODULATION

Means for communicating through a layer of ionized gases Patent  
[NASA-CASE-XLA-01127] c 07 N70-41372  
Data-aided carrier tracking loops  
[NASA-CASE-NPO-11282] c 10 N73-16205  
Linear phase demodulator including a phase locked loop with auxiliary feedback loop  
[NASA-CASE-GSC-12018-1] c 33 N77-14334

## FEEDERS

Automatic real-time pair-feeding system for animals  
[NASA-CASE-ARC-10302-1] c 51 N74-15778

## FEET (ANATOMY)

Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112

## FELTS

Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221

## FEMALES

Liquid cooled brassiere and method of diagnosing malignant tumors therewith  
[NASA-CASE-ARC-11007-1] c 52 N77-14736  
Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740

## FERMENTATION

Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

## FERRITES

Magnetic recording head and method of making same Patent  
[NASA-CASE-GSC-10097-1] c 08 N71-27210  
Method for making conductors for ferrite memory arrays --- from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c 24 N75-13032  
Device for measuring the ferrite content in an austenitic stainless-steel weld  
[NASA-CASE-MFS-22907-1] c 26 N76-18257

## FERROFLUIDS

Linear motion valve  
[NASA-CASE-MSC-20148-1] c 37 N85-29284

## FERROMAGNETIC MATERIALS

Magnetic heat pumping  
[NASA-CASE-LEW-12508-1] c 34 N78-17335

## FERROMAGNETISM

High temperature ferromagnetic cobalt-base alloy Patent  
[NASA-CASE-XLE-03629] c 17 N71-23248

## FIBER COMPOSITES

Fibrous refractory composite insulation --- shielding reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062  
Composition and method for making polyimide resin-reinforced fabric  
[NASA-CASE-LEW-12933-1] c 27 N81-19296  
Fuselage structure using advanced technology fiber reinforced composites  
[NASA-CASE-LAR-11688-1] c 24 N82-26384  
Low temperature cross linking polyimides  
[NASA-CASE-LEW-12876-2] c 27 N83-29392

Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950

Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745

Method and apparatus for gripping uniaxial fibrous composite materials  
[NASA-CASE-LEW-13758-1] c 24 N84-27829

Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450

Arc spray fabrication of metal matrix composite monolayer  
[NASA-CASE-LEW-13828-1] c 24 N85-30027

Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451

Light weight fire resistant graphite composites  
[US-PATENT-4,598,007] c 24 N86-28131

Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613

Method of controlling a resin curing process --- for fiber reinforced composites  
[NASA-CASE-MS-C-21169-1] c 27 N87-25473

Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656

Pultrusion die assembly  
[NASA-CASE-LAR-13719-1] c 37 N89-12867

**FIBER OPTICS**

Fiber optic vibration transducer and analyzer Patent  
[NASA-CASE-XMF-02433] c 14 N71-10616

Fiber distributed feedback laser  
[NASA-CASE-NPO-13531-1] c 36 N76-24553

Fiber optic multiplex optical transmission system  
[NASA-CASE-KSC-11047-1] c 74 N78-14889

Low intensity X-ray and gamma-ray imaging device --- fiber optics  
[NASA-CASE-GSC-12263-1] c 74 N79-20857

Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186

Interleaving device  
[NASA-CASE-GSC-12111-2] c 33 N81-29342

Optical gyroscope system  
[NASA-CASE-NPO-14258-1] c 35 N81-33448

Fiber optic transmission line stabilization apparatus and method  
[NASA-CASE-NPO-15036-1] c 74 N82-19029

Optical crystal temperature gauge with fiber optic connections  
[NASA-CASE-MS-C-18627-1] c 74 N82-30071

Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659

Fiber optic crossbar switch for automatically patching optical signals  
[NASA-CASE-KSC-11104-1] c 74 N83-29032

Optical fiber tactile sensor  
[NASA-CASE-NPO-15375-1] c 74 N84-11921

Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037

Optical fiber coupling method and apparatus  
[NASA-CASE-NPO-15464-1] c 74 N85-29749

Closed loop fiber optic rotation sensor  
[NASA-CASE-NPO-16558-1-CU] c 74 N87-23259

Optical pressure sealing coupling (light joint)  
[NASA-CASE-MFS-29348-1] c 74 N88-25303

Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1-CU] c 74 N88-25304

Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119

**FIBER RELEASE**

Curing agent for polyepoxides and epoxy resins and composites cured therewith --- preventing carbon fiber release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260

Method and device for detection of a substance --- determining carbon fiber release in fire situations  
[NASA-CASE-NPO-14940-1] c 33 N83-31954

**FIBER STRENGTH**

High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436

**FIBERS**

Method for fiberizing ceramic materials Patent  
[NASA-CASE-XNP-00597] c 18 N71-23088

Method and apparatus for fluffing, separating, and cleaning fibers  
[NASA-CASE-LAR-11224-1] c 37 N76-18456

Composite lamination method  
[NASA-CASE-LAR-12019-1] c 24 N78-17150

Dual membrane hollow fiber fuel cell and method of operating same  
[NASA-CASE-NPO-13732-1] c 44 N79-10513

Ion-exchange hollow fibers  
[NASA-CASE-NPO-13309-1] c 25 N81-19244

A method and technique for installing light-weight fragile, high-temperature fiber insulation  
[NASA-CASE-MS-C-18934-3] c 24 N82-26387

Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745

Graphite fluoride fiber polymer composite material  
[NASA-CASE-LEW-14472-1] c 24 N89-14259

**FIELD EFFECT TRANSISTORS**

Frequency to analog converter Patent  
[NASA-CASE-XNP-07040] c 08 N71-12500

Voltage to frequency converter Patent  
[NASA-CASE-GSC-10022-1] c 10 N71-25882

Broadband video process with very high input impedance  
[NASA-CASE-NPO-10199] c 09 N72-17156

Data multiplexer using tree switching configuration  
[NASA-CASE-NPO-11333] c 08 N72-22162

Integrated circuit including field effect transistor and cermet resistor  
[NASA-CASE-GSC-10835-1] c 09 N72-33205

Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c 76 N74-20329

Stored charge transistor  
[NASA-CASE-NPO-11156-2] c 33 N75-31331

Field effect transistor and method of construction thereof  
[NASA-CASE-MFS-23312-1] c 33 N78-27326

Method of making V-MOS field effect transistors utilizing a two-step anisotropic etching and ion implantation  
[NASA-CASE-GSC-12515-1] c 33 N81-26360

CCD correlated quadruple sampling processor  
[NASA-CASE-NPO-14426-1] c 33 N81-27396

Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126

JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515

Hybrid power semiconductor  
[NASA-CASE-LEW-13922-1] c 33 N86-20672

FET charge sensor and voltage probe  
[NASA-CASE-NPO-16045-1] c 76 N87-13313

**FIELD EMISSION**

Method and apparatus for limiting field emission current  
[NASA-CASE-ERC-10015-2] c 10 N72-27246

Apparatus for mounting a field emission cathode  
[NASA-CASE-LEW-14108-1] c 33 N87-28832

**FIELD OF VIEW**

Scanner --- photography from a spin stabilized synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465

Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139

**FILAMENT WINDING**

Tool attachment for spreading loose elements away from work Patent  
[NASA-CASE-XMF-02107] c 15 N71-10809

Method of making a filament-wound container Patent  
[NASA-CASE-XLE-03803-2] c 15 N71-17651

Method of fabricating a twisted composite superconductor  
[NASA-CASE-LEW-11015] c 26 N73-32571

Method of making reinforced composite structure  
[NASA-CASE-LEW-12619-1] c 24 N77-19171

**FILAMENTS**

Radiant heater having formed filaments Patent  
[NASA-CASE-XLE-00387] c 33 N70-34812

Twisted multifilament superconductor  
[NASA-CASE-LEW-11726-1] c 26 N73-26752

**FILLERS**

Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322

Intumescent-ablator coatings using endothermic fillers  
[NASA-CASE-ARC-11043-1] c 24 N78-27180

Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258

Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615

Adjustable high emittance gap filler --- reentry shielding for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339

Multi-element spherical shell generation  
[NASA-CASE-NPO-17203-1-CU] c 34 N89-13728

**FILM COOLING**

Multislot film cooled pyrolytic graphite rocket nozzle Patent  
[NASA-CASE-XNP-04389] c 28 N71-20942

Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144

Covering solid, film cooled surfaces with a duplex thermal barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177

Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433

**FILM THICKNESS**

Chemical vapor deposition reactor --- providing uniform film thickness  
[NASA-CASE-NPO-13650-1] c 25 N79-28253

Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949

Degassifying and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MS-C-18936-1] c 35 N83-29652

Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112

**FILMS**

Apparatus for obtaining isotropic irradiation of a specimen  
[NASA-CASE-MFS-20095] c 24 N72-11595

Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994

**FILTERS**

Filter system for control of outgas contamination in vacuum Patent  
[NASA-CASE-MFS-14711] c 15 N71-26185

Method for removing oxygen impurities from cesium Patent  
[NASA-CASE-XNP-04262-2] c 17 N71-26773

Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c 34 N74-30608

**FILTRATION**

Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119

Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654

Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

Infusion extractor  
[NASA-CASE-MS-C-20761-1] c 37 N87-15465

**FINS**

Thrust and direction control apparatus Patent  
[NASA-CASE-XLE-03583] c 31 N71-17629

Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421

**FIRE EXTINGUISHERS**

Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137

Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977

Fire extinguishant materials  
[NASA-CASE-ARC-11252-1] c 25 N83-36118

**FIRE PREVENTION**

Hydrogen fire blink detector  
[NASA-CASE-MFS-15063] c 14 N72-25412

Method and apparatus for checking fire detectors  
[NASA-CASE-GSC-11600-1] c 35 N74-21019

Fire resistant polyamide based on 1-(diorganooxyphosphonyl)methyl-2,4- and -2,6diamino benzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568

**FIREPROOFING**

Fire resistant coating composition Patent  
[NASA-CASE-GSC-10072] c 18 N71-14014

Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c 18 N73-13562

Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572

Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c 27 N74-12814

Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MS-C-14331-1] c 27 N76-24405

Flame retardant spandex type polyurethanes  
[NASA-CASE-MS-C-14331-2] c 27 N72-17213

Fire protection covering for small diameter missiles  
[NASA-CASE-ARC-11104-1] c 15 N79-26100

**FIRES**

Combustion products generating and metering device  
[NASA-CASE-GSC-11095-1] c 14 N72-10375

Hydrogen fire detection system with logic circuit to analyze the spectrum of temporal variations of the optical spectrum  
[NASA-CASE-MFS-13130] c 10 N72-17173

## FIRING (IGNITING)

## FIRING (IGNITING)

Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922

## FITTINGS

Quick release connector Patent  
[NASA-CASE-XLA-01141] c 15 N71-13789  
Flared tube strainer  
[NASA-CASE-XLA-05056] c 15 N72-11389  
Apparatus for adapting an end effector device remotely controlled manipulator arm  
[NASA-CASE-MFS-25949-1] c 37 N86-19603  
Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333  
Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-1] c 18 N88-28958

## FIXED WINGS

Supersonic aircraft Patent  
[NASA-CASE-XLA-04451] c 02 N71-12243

## FIXTURES

Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c 37 N74-32918  
Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c 37 N76-21554  
Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492  
Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081

## FLAME PROBES

Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410

## FLAME RETARDANTS

Flame retardant spandex type polyurethanes  
[NASA-CASE-MSC-14331-2] c 27 N78-17213  
Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262  
Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116  
Crystalline polyimides --- reinforcing fibers for high temperature composites and adhesives as well as flame retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-3] c 27 N80-24438  
Structural wood panels with improved fire resistance  
[NASA-CASE-ARC-11174-1] c 24 N81-13999  
Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238  
Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854  
Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745  
Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394  
Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797  
Polymer of phosphonylmethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525  
Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564  
The 1-((diorganooxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605  
Fire and heat resistant laminating resin based on maleimido and citraconimido substituted 1-(diorganooxyphosphonyl-methyl)-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-2] c 27 N89-16042

## FLAME SPRAYING

Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00302] c 15 N71-16077  
Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739  
Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c 37 N74-11301  
Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233

## FLAME TEMPERATURE

Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c 34 N78-27357

## FLAMES

Temperature reducing coating for metals subject to flame exposure Patent  
[NASA-CASE-XLE-00035] c 33 N71-29151  
Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c 35 N76-18403

## FLAMMABILITY

Flammability test chamber Patent  
[NASA-CASE-KSC-10126] c 11 N71-24985  
Burn rate testing apparatus  
[NASA-CASE-XMS-09690] c 33 N72-25913  
Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MSC-14903-2] c 27 N80-10358  
Vitra-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MSC-16074-1] c 27 N80-26446  
Light weight fire resistant graphite composites  
[US-PATENT-4,598,007] c 24 N86-28131  
Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphenylphosphazene polymer  
[NASA-CASE-AHC-11428-2] c 27 N87-16909

## FLANGES

Cassegrainian antenna subreflector flange for suppressing ground noise Patent  
[NASA-CASE-XNP-00683] c 09 N70-35425  
Anti-glare improvement for optical imaging systems Patent  
[NASA-CASE-NPO-10337] c 14 N71-15604  
Flanged major modular assembly jig  
[NASA-CASE-MSC-19372-1] c 39 N76-31562

## FLAPS (CONTROL SURFACES)

Jet aircraft configuration Patent  
[NASA-CASE-XLA-00087] c 02 N70-33332  
Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410  
Direct lift control system Patent  
[NASA-CASE-LAR-10249-1] c 02 N71-26110  
Reversed cowl flap inlet thrust augmentor --- with adjustable airfoil  
[NASA-CASE-ARC-10754-1] c 07 N75-24736

## FLARED BODIES

Flared tube strainer  
[NASA-CASE-XLA-05056] c 15 N72-11389

## FLASH LAMPS

Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189

## FLAT CONDUCTORS

Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986  
Method of making shielded flat cable Patent  
[NASA-CASE-MFS-13687] c 09 N71-28691  
Shielded flat cable  
[NASA-CASE-MFS-13687-2] c 09 N72-22198  
Electrical connector  
[NASA-CASE-MFS-20757] c 09 N72-28225  
Method and apparatus for preparing multiconductor cable with flat conductors  
[NASA-CASE-MFS-10946-1] c 31 N79-21226  
Edge coating of flat wires  
[NASA-CASE-XMF-05757-1] c 31 N79-21227

## FLAT PLATES

Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988  
Apparatus for making diamonds  
[NASA-CASE-MFS-20698] c 15 N72-20446  
Heat transfer device  
[NASA-CASE-MFS-22938-1] c 34 N76-18374  
Flat-plate heat pipe  
[NASA-CASE-GSC-11998-1] c 34 N77-32413  
Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640  
Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928

## FLEXIBILITY

Weatherproof helix antenna Patent  
[NASA-CASE-XKS-08485] c 07 N71-19493  
Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937  
Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546  
Nozzle extraction process and handmeter for measuring handle  
[NASA-CASE-LAR-12147-1] c 31 N79-11246  
Safety flywheel --- using flexible materials energy storage  
[NASA-CASE-HQN-10888-1] c 44 N79-14527  
Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036

Method of making a flexible diaphragm

[NASA-CASE-MSC-20797-1] c 37 N87-23981

## FLEXIBLE BODIES

Flexible back-up bar Patent  
[NASA-CASE-XMF-00722] c 15 N70-40204  
Deflective rod switch with elastic support and sealing means Patent  
[NASA-CASE-XNP-09808] c 09 N71-12518  
Flexible composite membrane Patent  
[NASA-CASE-XNP-08837] c 18 N71-16210  
Self supporting space vehicle Patent  
[NASA-CASE-XLA-00117] c 31 N71-17680  
Extravehicular tunnel suit system Patent  
[NASA-CASE-MSC-12243-1] c 05 N71-24728  
Active vibration isolator for flexible bodies Patent  
[NASA-CASE-LAR-10106-1] c 15 N71-27169  
Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747  
Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877  
Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421  
Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-10000  
Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163  
Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413

## FLEXIBLE WINGS

Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981  
Flexible wing deployment device Patent  
[NASA-CASE-XLA-01220] c 02 N70-41863  
Control for flexible parawing Patent  
[NASA-CASE-XLA-06958] c 02 N71-11038

## FLEXING

Two degree inverted flexure  
[NASA-CASE-ARC-10345-1] c 15 N73-12488  
Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987  
Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492

## FLIGHT

Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692

## FLIGHT ALTITUDE

Altitude measuring system  
[NASA-CASE-ERC-10412-1] c 09 N73-12211  
Terminal guidance system --- for guiding aircraft into preselected altitude and/or heading at terminal point  
[NASA-CASE-FRC-10049-1] c 04 N74-13420  
Apparatus for measuring an aircraft's speed and height  
[NASA-CASE-LAR-12275-1] c 35 N79-18296  
System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075  
CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040  
Sidelooking laser altimeter for a flight simulator  
[NASA-CASE-ARC-11312-1] c 36 N83-34304  
System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

## FLIGHT CLOTHING

Absorbent product and articles made therefrom  
[NASA-CASE-MSC-18223-2] c 54 N84-11758

## FLIGHT CONTROL

Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157  
Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073  
Mechanically limited, electrically operated hydraulic valve system for aircraft controls Patent  
[NASA-CASE-XAC-00048] c 02 N71-29128  
Numerical computer peripheral interactive device with manual controls  
[NASA-CASE-NPO-11497] c 08 N73-25206  
Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c 08 N74-10942  
Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-12930  
Deploy/release system --- model aircraft flight control  
[NASA-CASE-LAR-11575-1] c 02 N76-16014  
Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493  
Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882  
Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678

**FLIGHT CREWS**

Survival couch Patent  
[NASA-CASE-XLA-00118] c 05 N70-33285

**FLIGHT INSTRUMENTS**

Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733  
Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678

**FLIGHT RECORDERS**

Event recorder Patent  
[NASA-CASE-XLA-01832] c 14 N71-21006

**FLIGHT SAFETY**

Aerial capsule emergency separation device Patent  
[NASA-CASE-XLA-00115] c 03 N70-33343  
Apparatus for aiding a pilot in avoiding a midair collision between aircraft  
[NASA-CASE-LAR-10717-1] c 21 N73-30641

**FLIGHT SIMULATION**

Lunar landing flight research vehicle Patent  
[NASA-CASE-XFR-00929] c 31 N70-34966  
Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c 09 N71-19449  
Separation simulator Patent  
[NASA-CASE-XKS-04631] c 10 N71-23663

**FLIGHT SIMULATORS**

Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815  
Means for visually indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394  
Wind tunnel test section  
[NASA-CASE-MFS-20509] c 11 N72-17183  
Numerical computer peripheral interactive device with manual controls  
[NASA-CASE-NPO-11497] c 08 N73-25206  
Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c 09 N74-30597  
Vehicle simulator binocular multiplanar visual display system  
[NASA-CASE-ARC-10808-1] c 09 N76-24280  
Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083  
Seat cushion to provide realistic acceleration cues to aircraft simulator pilot  
[NASA-CASE-LAR-12149-2] c 09 N79-31228  
Chromatically corrected virtual image visual display --- reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185  
Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806  
Biocentrifuge system capable of exchanging specimen cages while in operational mode  
[NASA-CASE-MFS-23825-1] c 51 N81-32829  
Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212  
Sidelooking laser altimeter for a flight simulator  
[NASA-CASE-ARC-11312-1] c 36 N83-34304  
Inflight IFR procedures simulator  
[NASA-CASE-KSC-11218-1] c 09 N85-19990  
Simulator scene display evaluation device  
[NASA-CASE-ARC-11504-1] c 09 N86-32447

**FLIGHT TESTS**

Air frame drag balance Patent  
[NASA-CASE-XLA-00113] c 14 N70-33386

**FLIGHT TRAINING**

Inflight IFR procedures simulator  
[NASA-CASE-KSC-11218-1] c 09 N85-19990

**FLIGHT VEHICLES**

Leading edge curvature based on convective heating Patent  
[NASA-CASE-XLA-01486] c 01 N71-23497  
Altitude sensing device  
[NASA-CASE-XMS-01994-1] c 14 N72-17326

**FLIP-FLOPS**

AC logic flip-flop circuits Patent  
[NASA-CASE-XGS-00823] c 10 N71-15910  
Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772  
Flipflop interrogator and bi-polar current driver Patent  
[NASA-CASE-XGS-03058] c 10 N71-19547

**FLOAT ZONES**

Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879  
Liquid encapsulated float zone process and apparatus  
[NASA-CASE-MFS-28144-1] c 76 N88-24545

**FLOATING**

Floating baffle to improve efficiency of liquid transfer from tanks  
[NASA-CASE-KSC-10639] c 15 N73-26472  
Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c 54 N74-14845

Floating nut retention system  
[NASA-CASE-MSC-16938-1] c 37 N80-23653

**FLOATS**

Magnetically centered liquid column float Patent  
[NASA-CASE-XAC-00030] c 14 N70-34820

**FLOORS**

Elevated waterproof access floor system and method of making the same  
[NASA-CASE-ARC-11363-1] c 31 N87-16918

**FLOTATION**

Rescue litter flotation assembly Patent  
[NASA-CASE-XMS-04170] c 05 N71-22748

**FLOW CHAMBERS**

Multi-chamber controllable heat pipe  
[NASA-CASE-ARC-10199] c 34 N78-17337  
Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182  
Moving wall, continuous flow electrophoresis apparatus  
[NASA-CASE-MFS-28142-1] c 25 N88-23845

**FLOW DIRECTION INDICATORS**

Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271  
Flow angle sensor and read out system Patent  
[NASA-CASE-XLE-04503] c 14 N71-24864  
Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295

**FLOW DISTORTION**

Moving wall, continuous flow electrophoresis apparatus  
[NASA-CASE-MFS-28142-1] c 25 N88-23845

**FLOW DISTRIBUTION**

Full flow with shut off and selective drainage control valve Patent application  
[NASA-CASE-ERC-10208] c 15 N70-10867  
Method of obtaining permanent record of surface flow phenomena Patent  
[NASA-CASE-XLA-01353] c 14 N70-41366  
Method of recording a gas flow pattern Patent  
[NASA-CASE-XMF-01779] c 12 N71-20815  
Dual wavelength scanning Doppler velocimeter --- without perturbation of flow fields  
[NASA-CASE-ARC-10637-1] c 35 N75-16783  
Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LEW-11593-1] c 20 N76-14190  
Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187  
Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680  
Self-compensating solenoid valve  
[NASA-CASE-ARC-11620-1] c 37 N87-25573  
High effectiveness contour matching contact heat exchanger  
[NASA-CASE-MSC-20840-1] c 34 N88-29132

**FLOW MEASUREMENT**

Flow test device  
[NASA-CASE-XMS-04917] c 14 N69-24257  
Nuclear mass flowmeter  
[NASA-CASE-MFS-20485] c 14 N72-11365  
Flow velocity and directional instrument  
[NASA-CASE-LAR-10855-1] c 14 N73-13415  
Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c 35 N75-30503  
Method for making a hot wire anemometer and product thereof  
[NASA-CASE-ARC-10900-1] c 35 N77-24454  
Fluid velocity measuring device  
[NASA-CASE-LAR-11729-1] c 34 N79-12359  
Automatic flowmeter calibration system  
[NASA-CASE-KSC-11076-1] c 34 N81-26402  
Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12720-1] c 44 N83-21504  
Bio-medical flow sensor --- intravenous procedures  
[NASA-CASE-MSC-18761-1] c 52 N83-27577  
Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295  
Auto covariance computer  
[NASA-CASE-LAR-12968-1] c 60 N86-21154  
Fluid flow meter for measuring the rate of fluid flow in a conduit  
[NASA-CASE-MFS-28030-1] c 35 N86-25752  
Spinning disk calibration method and apparatus for laser Doppler velocimeter  
[NASA-CASE-ARC-11510-1] c 35 N86-32697  
Vibration-free Raman Doppler velocimeter  
[NASA-CASE-LAR-13268-1] c 35 N87-14669  
Dual mode laser velocimeter  
[NASA-CASE-ARC-11634-1] c 36 N88-14350  
Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759  
Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355

**FLOW REGULATORS**

Anti-backlash circuit for hydraulic drive system Patent  
[NASA-CASE-XNP-01020] c 03 N71-12260  
Fluid flow restrictor Patent  
[NASA-CASE-NPO-10117] c 15 N71-15608  
Fluid flow control valve Patent  
[NASA-CASE-XLE-00703] c 15 N71-15967  
Gas regulator Patent  
[NASA-CASE-NPO-10298] c 12 N71-17661  
Semitoroidal diaphragm cavitating valve Patent  
[NASA-CASE-XNP-09704] c 12 N71-18615  
Temperature sensitive flow regulator Patent  
[NASA-CASE-MFS-14259] c 15 N71-19213  
Pneumatic amplifier Patent  
[NASA-CASE-XLE-12121-1] c 15 N71-27147  
Gas flow control device  
[NASA-CASE-NPO-11479] c 15 N73-13462  
Pressure modulating valve  
[NASA-CASE-MSC-14905-1] c 37 N77-28487  
Automotive gas turbine fuel control  
[NASA-CASE-LEW-12785-1] c 37 N78-24545  
Flow diverter valve and flow diversion method  
[NASA-CASE-HQN-00573-1] c 37 N79-33468  
Automatic thermal switch  
[NASA-CASE-GSC-12415-1] c 33 N82-24419  
Bio-medical flow sensor --- intravenous procedures  
[NASA-CASE-MSC-18761-1] c 52 N83-27577  
Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253  
Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071  
Moving wall, continuous flow electrophoresis apparatus  
[NASA-CASE-MFS-28142-1] c 25 N88-23845  
Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1-CU] c 31 N88-24814

**FLOW RESISTANCE**

Flow resistivity instrument  
[NASA-CASE-LAR-13053-1] c 43 N83-29783

**FLOW STABILITY**

Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c 28 N71-22983  
Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c 34 N74-27730  
Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12720-1] c 44 N83-21504

**FLOW VELOCITY**

Method for continuous variation of propellant flow and thrust in propulsive devices Patent  
[NASA-CASE-XLE-00177] c 28 N70-40367  
Densitometer Patent  
[NASA-CASE-XLE-00688] c 14 N70-41330  
Device for suppressing sound and heat produced by high-velocity exhaust jets Patent  
[NASA-CASE-XMF-01813] c 28 N70-41582  
Positive displacement flowmeter Patent  
[NASA-CASE-XMF-02822] c 14 N70-41994  
Zeta potential flowmeter Patent  
[NASA-CASE-XNP-06509] c 14 N71-23226  
Method for measuring the characteristics of a gas Patent  
[NASA-CASE-XLA-03375] c 16 N71-24074  
Laser fluid velocity detector Patent  
[NASA-CASE-XAC-10770-1] c 16 N71-24828  
Gas low pressure low flow rate metering system Patent  
[NASA-CASE-FRC-10022] c 12 N71-26546  
Force-balanced, throttle valve Patent  
[NASA-CASE-NPO-10808] c 15 N71-27432  
Flow rate switch  
[NASA-CASE-NPO-10722] c 09 N72-20199  
Flow velocity and directional instrument  
[NASA-CASE-LAR-10855-1] c 14 N73-13415  
Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c 34 N74-27730  
Wind tunnel flow generation section  
[NASA-CASE-ARC-10710-1] c 09 N75-12969  
Combined dual scatter, local oscillator laser Doppler velocimeter  
[NASA-CASE-ARC-10642-1] c 36 N76-14447  
System for measuring three fluctuating velocity components in a turbulently flowing fluid  
[NASA-CASE-ARC-10974-1] c 34 N77-27345  
Fluid velocity measuring device  
[NASA-CASE-LAR-11729-1] c 34 N79-12359  
wind tunnel supplementary Mach number minimum section insert  
[NASA-CASE-LAR-12532-1] c 09 N82-11088  
Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195

**FLOW VISUALIZATION**

Shock-layer radiation measurement  
[NASA-CASE-XAC-02970] c 14 N69-39896

Method of recording a gas flow pattern Patent  
[NASA-CASE-XMF-01779] c 12 N71-20815  
Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178  
Dual wavelength holographic interferometry system  
[NASA-CASE-MFS-28242-1] c 35 N88-23960  
Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551

**FLOWMETERS**

Flow test device  
[NASA-CASE-XMS-04917] c 14 N69-24257  
Positive displacement flowmeter Patent  
[NASA-CASE-XMF-02822] c 14 N70-41994  
Heated element fluid flow sensor Patent  
[NASA-CASE-MSC-12084-1] c 12 N71-17569  
Laser Doppler system for measuring three dimensional vector velocity Patent  
[NASA-CASE-MFS-20386] c 21 N71-19212  
Zeta potential flowmeter Patent  
[NASA-CASE-XNP-06509] c 14 N71-23226  
Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692  
Laser fluid velocity detector Patent  
[NASA-CASE-XAC-10770-1] c 16 N71-24828  
Gas low pressure low flow rate metering system Patent  
[NASA-CASE-FHC-10022] c 12 N71-26546  
Nuclear mass flowmeter  
[NASA-CASE-MFS-20485] c 14 N72-11365  
Respiratory analysis system and method  
[NASA-CASE-MSC-13436-1] c 05 N73-32015  
Low power electromagnetic flowmeter providing accurate zero set  
[NASA-CASE-ARC-10362-1] c 14 N73-32326  
Electromagnetic flow rate meter --- for liquid metals  
[NASA-CASE-LEW-10981-1] c 35 N74-21018  
Leak detector  
[NASA-CASE-MFS-21761-1] c 35 N75-15931  
System for measuring three fluctuating velocity components in a turbulently flowing fluid  
[NASA-CASE-ARC-10974-1] c 34 N77-27345  
Automatic flowmeter calibration system  
[NASA-CASE-KSC-11076-1] c 34 N81-26402  
Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295  
State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596  
Technique for measuring gas conversion factors  
[NASA-CASE-LAR-13220-1] c 34 N86-12547  
Fluid flow meter for measuring the rate of fluid flow in a conduit  
[NASA-CASE-MFS-28030-1] c 35 N86-25752  
Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759

**FLUID AMPLIFIERS**  
Fluid jet amplifier  
[NASA-CASE-XLE-03512] c 12 N69-21466  
Multiway vortex valve system Patent  
[NASA-CASE-XMF-04709] c 15 N71-15609  
Shear modulated fluid amplifier Patent  
[NASA-CASE-MFS-10412] c 12 N71-17578  
Rocket thrust throttling system  
[NASA-CASE-LEW-10374-1] c 28 N73-13773  
Fluid pressure amplifier and system  
[NASA-CASE-LAR-10868-1] c 33 N74-11050  
Fluid thrust control system --- for liquid propellant rocket engines  
[NASA-CASE-XMF-05964-1] c 20 N79-21124

**FLUID DYNAMICS**

Degassifying and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MSC-18936-1] c 35 N83-29652

**FLUID FILLED SHELLS**

Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
[NASA-CASE-NPO-14596-3] c 31 N83-31896

**FLUID FILMS**

Journal bearings --- for lubricant films  
[NASA-CASE-LEW-11076-1] c 37 N74-21061  
Fluid journal bearings  
[NASA-CASE-LEW-11076-4] c 37 N76-15461  
Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c 37 N76-22541

**FLUID FILTERS**

Liquid-gas separator for zero gravity environment Patent  
[NASA-CASE-XMS-01492] c 05 N70-41297  
High pressure filter Patent  
[NASA-CASE-XNP-00732] c 28 N70-41447  
Water separating system Patent  
[NASA-CASE-XMS-13052] c 14 N71-20427  
Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c 34 N75-26282

Filter regeneration systems --- a system for regenerating a system filter in a fluid flow line  
[NASA-CASE-MSC-14273-1] c 34 N75-33342  
Quick disconnect filter coupling  
[NASA-CASE-MFS-22323-1] c 37 N76-14463  
Fluid sample collection and distribution system --- qualitative analysis of aqueous samples from several points  
[NASA-CASE-MSC-16841-1] c 34 N79-24285  
Air removal device --- life support systems  
[NASA-CASE-XLA-08914-2] c 25 N82-21269  
Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569

**FLUID FLOW**

Fluid jet amplifier  
[NASA-CASE-XLE-03512] c 12 N69-21466  
Pneumatic system for controlling and actuating pneumatic cyclic devices  
[NASA-CASE-XMS-04843] c 03 N69-21469  
Full flow with shut off and selective drainage control valve Patent application  
[NASA-CASE-ERC-10208] c 15 N70-10867  
Conical valve plug Patent  
[NASA-CASE-XLE-00715] c 15 N70-34859  
Pressure regulating system Patent  
[NASA-CASE-XNP-00450] c 15 N70-38603  
Antiflutter ball check valve Patent  
[NASA-CASE-XNP-01152] c 15 N70-41811  
Inductive liquid level detection system Patent  
[NASA-CASE-XLE-01609] c 14 N71-10500  
Multiway vortex valve system Patent  
[NASA-CASE-XMF-04709] c 15 N71-15609  
Heated element fluid flow sensor Patent  
[NASA-CASE-MSC-12084-1] c 12 N71-17569  
Multiple orifice throttle valve Patent  
[NASA-CASE-XNP-09698] c 15 N71-18580  
Fluid flow meter with comparator reference means Patent  
[NASA-CASE-XGS-01331] c 14 N71-22996  
Pressure transducer calibrator Patent  
[NASA-CASE-XNP-01660] c 14 N71-23036  
Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191  
Gas low pressure low flow rate metering system Patent  
[NASA-CASE-FRC-10022] c 12 N71-26546  
Electrohydrodynamic control valve Patent  
[NASA-CASE-NPO-10416] c 12 N71-27332  
Fluid jet amplifier Patent  
[NASA-CASE-XLE-09341] c 12 N71-28741  
Nuclear mass flowmeter  
[NASA-CASE-MFS-20485] c 14 N72-11365  
Flow rate switch  
[NASA-CASE-NPO-10722] c 09 N72-20199  
Torsional disconnect unit  
[NASA-CASE-NPO-10704] c 15 N72-20445  
Capacitive tank gaging apparatus being independent of liquid distribution  
[NASA-CASE-MFS-21629] c 14 N72-22442  
Cryogenic feedthrough  
[NASA-CASE-LAR-10031] c 15 N72-22484  
Geysering inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-KSC-10615] c 15 N73-12486  
Pump for delivering heated fluids  
[NASA-CASE-NPO-11417] c 15 N73-24513  
Flow control valve --- for high temperature fluids  
[NASA-CASE-NPO-11951-1] c 37 N74-21065  
Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c 34 N74-27730  
Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-19686  
Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c 35 N75-30503  
Filter regeneration systems --- a system for regenerating a system filter in a fluid flow line  
[NASA-CASE-MSC-14273-1] c 34 N75-33342  
Combined dual scatter, local oscillator laser Doppler velocimeter  
[NASA-CASE-ARC-10642-1] c 36 N76-14447  
Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c 37 N76-14460  
Vortex generator for controlling the dispersion of effluents in a flowing liquid  
[NASA-CASE-LAR-12045-1] c 34 N77-24423  
Pseudo-backscatter laser Doppler velocimeter employing antiparallel-reflector in the forward direction  
[NASA-CASE-ARC-10970-1] c 36 N77-25501  
Accumulator  
[NASA-CASE-MFS-19287-1] c 34 N77-30399  
Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c 35 N78-19465

Flow compensating pressure regulator  
[NASA-CASE-LEW-12718-1] c 34 N78-25351  
Fluid valve assembly  
[NASA-CASE-MSC-12731-1] c 37 N78-25426  
Positive isolation disconnect  
[NASA-CASE-MSC-16043-1] c 37 N79-11402  
Fluid velocity measuring device  
[NASA-CASE-LAR-11729-1] c 34 N79-12359  
Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470  
Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680  
Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195  
Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756  
Fluid flow meter for measuring the rate of fluid flow in a conduit  
[NASA-CASE-MFS-28030-1] c 35 N86-25752  
Two-axis, self-nulling skin friction balance  
[NASA-CASE-LAR-13294-1] c 35 N86-32696  
Multi-path peristaltic pump  
[NASA-CASE-MSC-20907-1] c 37 N87-18818  
Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332  
Dual wavelength holographic interferometry system  
[NASA-CASE-MFS-28242-1] c 35 N88-23960  
Liquid sheet radiator apparatus  
[NASA-CASE-LEW-14295-1] c 31 N89-14348  
Pressure measuring probe  
[NASA-CASE-LAR-13853-1] c 35 N89-14423  
Fluidic momentum controller  
[NASA-CASE-MSC-20906-2] c 35 N89-15379

**FLUID INJECTION**

Apparatus for igniting solid propellants Patent  
[NASA-CASE-XLE-00207] c 28 N70-33375  
Method of igniting solid propellants Patent  
[NASA-CASE-XLE-01988] c 27 N71-15634  
Aerodynamic spike nozzle Patent  
[NASA-CASE-XGS-01143] c 31 N71-15647  
Process of forming particles in a cryogenic path Patent  
[NASA-CASE-NPO-10250] c 23 N71-16212  
Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089  
Tertiary flow injection thrust vectoring system Patent  
[NASA-CASE-MFS-20831] c 28 N71-29153  
Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c 52 N74-22771

**FLUID JETS**

Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c 02 N70-34856

**FLUID LOGIC**

Logic AND gate for fluid circuits Patent  
[NASA-CASE-XLA-07391] c 12 N71-17579

**FLUID MANAGEMENT**

Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

**FLUID MECHANICS**

Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573  
Parallel-plate viscometer with double diaphragm suspension  
[NASA-CASE-NPO-11387] c 14 N73-14429  
Modified face seal for positive film stiffness  
[NASA-CASE-LEW-12989-1] c 37 N82-12442

**FLUID POWER**

Fluid power transmission Patent  
[NASA-CASE-XMS-01445] c 12 N71-16031  
Fluid power transmitting gas bearing Patent  
[NASA-CASE-ERC-10097] c 15 N71-28465

**FLUID PRESSURE**

Flow compensating pressure regulator  
[NASA-CASE-LEW-12718-1] c 34 N78-25351  
Self-stabilizing radial face seal  
[NASA-CASE-LEW-12991-1] c 37 N81-24442  
Pressure letdown method and device for coal conversion systems  
[NASA-CASE-NPO-15100-1] c 44 N84-14583  
Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788

**FLUID ROTOR GYROSCOPES**

Piezoelectric pump Patent  
[NASA-CASE-XNP-05429] c 26 N71-21824

**FLUID SWITCHING ELEMENTS**

Booster tank system Patent  
[NASA-CASE-MSC-12390] c 27 N71-29155

**FLUID TRANSMISSION LINES**

Low heat leak connector for cryogenic system  
[NASA-CASE-XLE-02367-1] c 31 N79-21225

**FLUIDIC CIRCUITS**

Technique of duplicating fragile core  
[NASA-CASE-XLA-07829] c 15 N72-16329

- Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c 35 N75-30503
- FLUIDICS**
- Fluidic-thermochromic display device Patent  
[NASA-CASE-ERC-10031] c 12 N71-18603
- Plasma fluidic hybrid display Patent  
[NASA-CASE-ERC-10100] c 09 N71-33519
- Fluidic proportional thruster system  
[NASA-CASE-ARC-10106-1] c 28 N72-22769
- Fluid pressure amplifier and system  
[NASA-CASE-LAR-10868-1] c 33 N74-11050
- Fluid valve assembly  
[NASA-CASE-MS-C-12731-1] c 37 N78-25426
- Fluidic angular velocity sensor  
[NASA-CASE-NPO-16479-ICU] c 35 N86-32695
- FLUIDIZED BED PROCESSORS**
- Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154
- Fluidized bed coal combustion reactor  
[NASA-CASE-NPO-14273-1] c 25 N82-11144
- Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475
- Use of glow discharge in fluidized beds  
[NASA-CASE-ARC-11245-1] c 28 N82-18401
- Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253
- FLUIDS**
- Automated fluid chemical analyzer Patent  
[NASA-CASE-XNP-09451] c 06 N71-26754
- Bacteria detection instrument and method  
[NASA-CASE-GSC-11533-1] c 14 N73-13435
- Low outgassing polydimethylsiloxane material and preparation thereof  
[NASA-CASE-GSC-11358-1] c 06 N73-26100
- Fluid mass sensor for a zero gravity environment  
[NASA-CASE-MS-C-14653-1] c 35 N77-19385
- Self-charging metering and dispensing device for fluids  
[NASA-CASE-MS-C-20275-1] c 35 N85-21595
- FLUORESCENCE**
- Apparatus for producing three-dimensional recordings of fluorescence spectra Patent  
[NASA-CASE-XGS-01231] c 14 N70-41676
- Internal work light Patent  
[NASA-CASE-XKS-05932] c 09 N71-26787
- Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
[NASA-CASE-ARC-10633-1] c 25 N74-26947
- Fluorescence detector for monitoring atmospheric pollutants  
[NASA-CASE-NPO-13231-1] c 45 N75-27585
- Fluorescent radiation converter  
[NASA-CASE-GSC-12528-1] c 74 N81-24900
- Optical multiple sample vacuum integrating sphere  
[NASA-CASE-GSC-12849-1] c 74 N86-26190
- FLUORIDES**
- Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710
- Corrosion resistant beryllium Patent  
[NASA-CASE-LEW-10327] c 17 N71-33408
- Perfluoro polyether acyl fluorides  
[NASA-CASE-NPO-10765] c 06 N72-20121
- Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585
- Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856
- Graphite fluoride fiber polymer composite material  
[NASA-CASE-LEW-14472-1] c 24 N89-14259
- FLUORINATION**
- Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-2] c 06 N72-27151
- Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098
- FLUORINE**
- Reaction of fluorine with polyperfluoropolyenes  
[NASA-CASE-NPO-10862] c 06 N72-22107
- Process for the preparation of fluorine containing crosslinked elastomeric polytriazine and product so produced  
[NASA-CASE-ARC-11248-1] c 27 N81-17259
- FLUORINE COMPOUNDS**
- Fluorine-containing polyformals  
[NASA-CASE-XMF-06900-1] c 27 N79-21191
- Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MS-C-18430-1] c 37 N82-24491
- FLUORO COMPOUNDS**
- New polymers of perfluorobutadiene and method of manufacture Patent application  
[NASA-CASE-NPO-10863] c 06 N70-11251
- Method of polymerizing perfluorobutadiene Patent application  
[NASA-CASE-NPO-10447] c 06 N70-11252
- Fluorohydroxy ethers  
[NASA-CASE-MFS-10507] c 06 N73-30101
- Highly fluorinated polymers  
[NASA-CASE-MFS-11492] c 06 N73-30102
- Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c 06 N73-33076
- Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c 27 N76-16228
- The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312
- FLUOROCARBONS**
- Electrically conductive fluorocarbon polymer  
[NASA-CASE-XLE-06774-2] c 06 N72-25150
- Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404
- FLUOROHYDROCARBONS**
- New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433
- FLUOROPOLYMERS**
- Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016
- Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440
- Surface texturing of fluoropolymers  
[NASA-CASE-LEW-13028-1] c 27 N82-33521
- New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433
- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894
- Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404
- FLUTTER**
- Antiflutter ball check valve Patent  
[NASA-CASE-XNP-01152] c 15 N70-41811
- Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004
- Decoupler pylon: wing/store flutter suppressor  
[NASA-CASE-LAR-12468-1] c 08 N82-32373
- Remote pivot decoupler pylon: Wing/store flutter suppressor  
[NASA-CASE-LAR-13173-1] c 05 N87-14314
- Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334
- FLUTTER ANALYSIS**
- Model mount system for testing flutter  
[NASA-CASE-LAR-12950-1] c 09 N84-34448
- FLUX (RATE)**
- Two axis fluxgate magnetometer Patent  
[NASA-CASE-GSC-10441-1] c 14 N71-27325
- Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575
- FLUX DENSITY**
- Particle beam measurement apparatus using beam kinetic energy to change the heat sensitive resistance of the detection probe Patent  
[NASA-CASE-XLE-00243] c 14 N70-38602
- Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575
- FLUXES**
- Solder flux which leaves corrosion-resistant coating Patent  
[NASA-CASE-XNP-03459-2] c 18 N71-15688
- Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078
- FLYWHEELS**
- Energy storage apparatus  
[NASA-CASE-GSC-12030-1] c 44 N78-24608
- Rotatable mass for a flywheel  
[NASA-CASE-MFS-23051-1] c 37 N79-10422
- Safety flywheel --- using flexible materials energy storage  
[NASA-CASE-HQN-10888-1] c 44 N79-14527
- Method of manufacture of bonded fiber flywheel --- fiberglass-epoxy  
[NASA-CASE-MFS-23674-1] c 24 N81-29163
- Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410
- Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808
- FOAMS**
- Foam generator Patent  
[NASA-CASE-XLA-00838] c 03 N70-36778
- Method for continuous variation of propellant flow and thrust in propulsive devices Patent  
[NASA-CASE-XLE-00177] c 28 N70-40367
- Filament wound container Patent  
[NASA-CASE-XLE-03803] c 15 N71-23816
- Novel polycarboxylic prepolymeric materials and polymers thereof Patent  
[NASA-CASE-NPO-10596] c 06 N71-25929
- Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155
- Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779
- Thickness measuring and injection device Patent  
[NASA-CASE-MFS-20261] c 14 N71-27005
- Method of making foamed materials in zero gravity  
[NASA-CASE-XMF-09902] c 15 N72-11387
- Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c 27 N74-12812
- Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c 27 N74-27037
- Polymeric foams from cross-linkable poly-n-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c 27 N78-31232
- Ambient cure polyimide foams --- thermal resistant foams  
[NASA-CASE-ARC-11170-1] c 27 N79-11215
- Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116
- Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807
- Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126
- Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841
- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894
- FOCAL PLANE DEVICES**
- Antenna array at focal plane of reflector with coupling network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233
- High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898
- Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139
- Projection lens scanning laser velocimeter system  
[NASA-CASE-ARC-11547-1] c 36 N87-17026
- FOCI**
- High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898
- FOCUSING**
- X-ray reflection collimator adapted to focus X-radiation directly on a detector Patent  
[NASA-CASE-XHQ-04106] c 14 N70-40240
- Focussing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618
- Petzval type objective including field shaping lens Patent  
[NASA-CASE-GSC-10700] c 23 N71-30027
- Absolute focus lock for microscopes  
[NASA-CASE-LAR-10184] c 14 N72-22445
- Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c 33 N74-10195
- Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014
- Multiplate focusing collimator --- for scanning small near radiation sources  
[NASA-CASE-MFS-20932-1] c 35 N75-19616
- RF beam center location method and apparatus for power transmission system  
[NASA-CASE-NPO-13821-1] c 44 N78-28594
- Scanning afocal laser velocimeter projection lens system  
[NASA-CASE-LAR-12328-1] c 36 N82-32712
- Gyrotrotron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952
- Dual mode laser velocimeter  
[NASA-CASE-ARC-11634-1] c 36 N88-14350
- FOG**
- Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
[NASA-CASE-MS-C-13530-2] c 23 N75-14834
- Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11159-1] c 09 N82-24212
- Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N84-32398
- FOILS (MATERIALS)**
- Foil seal  
[NASA-CASE-XLE-05130] c 15 N69-21362
- Method of making an insulation foil  
[NASA-CASE-LEW-11484-1] c 24 N75-33181



- Partial interlaminar separation system for composites  
[NASA-CASE-LAR-12065-1] c 24 N81-14000  
Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

**FOLDING**

- Folding apparatus Patent  
[NASA-CASE-XLA-00137] c 15 N70-33180

**FOLDING STRUCTURES**

- Space and atmospheric reentry vehicle Patent  
[NASA-CASE-XGS-00260] c 31 N70-37924  
Collapsible loop antenna for space vehicle Patent  
[NASA-CASE-XMF-00437] c 07 N70-40202  
Folding boom assembly Patent  
[NASA-CASE-XGS-00938] c 32 N70-41367  
Foldable conduit Patent  
[NASA-CASE-XLE-00620] c 32 N70-41579  
Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c 03 N70-41580  
Wing deployment method and apparatus Patent  
[NASA-CASE-XMS-00907] c 02 N70-41630  
Variable sweep aircraft Patent  
[NASA-CASE-XLA-03659] c 02 N71-11041  
Radiator deployment actuator Patent  
[NASA-CASE-MSC-11817-1] c 15 N71-26611  
Foldable construction block  
[NASA-CASE-MSC-12233-1] c 15 N72-25454  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040  
Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539  
Foldable beam  
[NASA-CASE-LAR-12077-1] c 31 N81-25259  
Telescoping columns --- parabolic antenna support  
[NASA-CASE-LAR-12195-1] c 31 N81-27324  
Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479  
Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789  
Shuttle-launch triangular space station  
[NASA-CASE-MSC-20676-1] c 18 N86-24729  
Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1] c 37 N86-25789  
Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706  
Deployable M-braced truss structure  
[NASA-CASE-LAR-13081-1] c 37 N86-32737  
Foldable self-erecting joint  
[NASA-CASE-MSC-20635-1] c 18 N87-14373  
Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036  
Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492

**FOOD**

- Bacteria detection instrument and method  
[NASA-CASE-GSC-11533-1] c 14 N73-13435

**FOOTPRINTS**

- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918

**FORCE**

- Ferrofluidic solenoid  
[NASA-CASE-NPO-11738-1] c 09 N73-30185

**FORCE DISTRIBUTION**

- Device for handling heavy loads  
[NASA-CASE-XNP-04969] c 11 N69-27466  
Two force component measuring device Patent  
[NASA-CASE-XAC-04886-1] c 14 N71-20439  
Tensile strength testing device Patent  
[NASA-CASE-XNP-05634] c 15 N71-24834  
Impact monitoring apparatus  
[NASA-CASE-MSC-15626-1] c 14 N72-25411  
Variable direction force coupler  
[NASA-CASE-MFS-20317] c 15 N73-13463  
Subminiature insertable force transducer --- including a strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329  
Device for quick changeover between wind tunnel force and pressure testing  
[NASA-CASE-LAR-13512-1] c 35 N87-28884  
Linear force device  
[NASA-CASE-MSC-20549-2] c 35 N88-24927

**FORCED VIBRATION**

- Seismic vibration source  
[NASA-CASE-NPO-14112-1] c 46 N79-22679

**FOREBODIES**

- Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968  
Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628

**FORMALDEHYDE**

- Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174

- Synthesis of 2,4,8,10-tetroxaspiro[5.5]undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187

**FORMAT**

- Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751

**FORMATES**

- Fluorine containing polyurethane  
[NASA-CASE-MFS-10509] c 06 N73-30103

**FORMING TECHNIQUES**

- Wire grid forming apparatus Patent  
[NASA-CASE-XLE-00023] c 15 N70-33330  
Method for forming plastic materials Patent  
[NASA-CASE-XMS-05516] c 15 N71-17803  
Method of making tubes Patent  
[NASA-CASE-XGS-04175] c 15 N71-18579  
Magnetomotive metal working device Patent  
[NASA-CASE-XMF-03793] c 15 N71-24833  
Apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917-2] c 15 N71-24836  
Method of forming shapes from planar sheets of thermosetting materials  
[NASA-CASE-NPO-11036] c 15 N72-24522  
Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c 26 N74-10521  
Molding apparatus --- for thermosetting plastic compositions  
[NASA-CASE-LAR-10489-2] c 31 N74-32920  
Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c 37 N75-26371  
Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c 37 N75-31446  
Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c 37 N76-14461  
Acoustic energy shaping  
[NASA-CASE-NPO-13802-1] c 71 N78-10837  
Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436  
Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c 26 N78-24333  
Solar cell with improved N-region contact and method of forming the same  
[NASA-CASE-NPO-14205-1] c 44 N79-31752  
Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319  
Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491  
Sphere forming method and apparatus  
[NASA-CASE-NPO-15070-1] c 31 N83-35176

**FOSSIL FUELS**

- Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709

**FOUNDATIONS**

- Expandable support means  
[NASA-CASE-NPO-11059] c 15 N72-17454  
Adjustable securing base  
[NASA-CASE-MSC-19666-1] c 37 N78-17383  
Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621

**FOURIER TRANSFORMATION**

- Continuous Fourier transform method and apparatus --- for the analysis of simultaneous analog signal components  
[NASA-CASE-ARC-10466-1] c 60 N75-13539  
Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078

**FRACTIONATION**

- Method and apparatus for distillation of liquids Patent  
[NASA-CASE-XNP-08124] c 15 N71-27184  
Electrophoretic fractional elution apparatus employing a rotational seal fraction collector  
[NASA-CASE-MFS-23284-1] c 37 N80-14397  
Electrophoresis device  
[NASA-CASE-MFS-25426-1] c 25 N83-10126  
Spillage detector for liquid chromatography systems  
[NASA-CASE-MSC-20206-1] c 25 N86-27431

**FRACTURE MECHANICS**

- Apparatus for positioning and loading a test specimen Patent  
[NASA-CASE-XLE-01300] c 15 N70-41993

**FRACTURE STRENGTH**

- Process for making a high toughness-high strength ion alloy  
[NASA-CASE-LEW-12542-2] c 26 N79-22271  
High toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-3] c 26 N80-32484  
Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235  
Process of end-capping a polyimide system  
[NASA-CASE-LAR-13135-1] c 27 N86-19456

- Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575

**FRAMES**

- Articulated multiple couch assembly Patent  
[NASA-CASE-MSC-11253] c 05 N71-12343  
Soft frame adjustable eyeglasses Patent  
[NASA-CASE-XMS-06064] c 05 N71-23096  
Expandable space frames  
[NASA-CASE-ERC-10365-1] c 31 N73-32749  
Laser measuring system for incremental assemblies --- measuring wire-wrapped frame assemblies in spark chambers  
[NASA-CASE-GSC-12321-1] c 36 N82-16396  
Inorganic spark chamber frame and method of making the same  
[NASA-CASE-GSC-12354-1] c 35 N82-24471

**FRAMING CAMERAS**

- High speed photo-optical time recording  
[NASA-CASE-KSC-10294] c 14 N72-18411

**FREE FLIGHT TEST APPARATUS**

- Support apparatus for dynamic testing Patent  
[NASA-CASE-XMF-01772] c 11 N70-41677  
Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604  
Test unit free-flight suspension system Patent  
[NASA-CASE-XLA-00620] c 11 N71-15926

**FREE WING AIRCRAFT**

- Free wing assembly for an aircraft  
[NASA-CASE-FRC-10092-1] c 05 N79-12061

**FREEZE DRYING**

- Modification of the physical properties of freeze-dried rice  
[NASA-CASE-MSC-13540-1] c 05 N72-33096

**FREEZING**

- System for and method of freezing biological tissue  
[NASA-CASE-GSC-12173-1] c 51 N79-10694  
Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442

**FREON**

- Solar energy power system --- using Freon  
[NASA-CASE-MFS-21628-1] c 44 N75-32581

**FREQUENCIES**

- Controlled oscillator system with a time dependent output frequency  
[NASA-CASE-NPO-11962-1] c 33 N74-10194  
High efficiency multifrequency feed  
[NASA-CASE-GSC-11909] c 32 N74-20863

**FREQUENCY ANALYZERS**

- Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692  
Broadband frequency discriminator Patent  
[NASA-CASE-NPO-10096] c 07 N71-24583  
Audio frequency marker system  
[NASA-CASE-NPO-11147] c 14 N72-27408  
Continuous Fourier transform method and apparatus --- for the analysis of simultaneous analog signal components  
[NASA-CASE-ARC-10466-1] c 60 N75-13539  
Frequency discriminator and phase detector circuit  
[NASA-CASE-NPO-11515-1] c 33 N77-13315

**FREQUENCY CONTROL**

- Bus voltage compensation circuit for controlling direct current motor  
[NASA-CASE-XMS-04215-1] c 09 N69-39987  
Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00458] c 09 N70-38604  
Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00131] c 09 N70-38995  
Automatic frequency discriminators and control for a phase-lock loop providing frequency preset capabilities Patent  
[NASA-CASE-XMF-08665] c 10 N71-19467  
Linear accelerator frequency control system Patent  
[NASA-CASE-XGS-05441] c 10 N71-22962  
Tuning arrangement for an electron discharge device or the like Patent  
[NASA-CASE-XNP-09771] c 09 N71-24841  
Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c 32 N74-11000  
Automatic frequency control for FM transmitter  
[NASA-CASE-MFS-21540-1] c 32 N74-19790  
Acoustically controlled distributed feedback laser  
[NASA-CASE-NPO-13175-1] c 36 N75-31427  
Reflex feed system for dual frequency antenna with frequency cutoff means  
[NASA-CASE-NPO-14022-1] c 32 N78-31321  
Cam-operated pitch-change apparatus  
[NASA-CASE-LEW-13050-1] c 07 N79-14095  
Digital numerically controlled oscillator  
[NASA-CASE-MSC-16747-1] c 33 N81-17349  
High stability buffered phase comparator  
[NASA-CASE-GSC-12645-1] c 33 N84-16454



Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943

Automatic oscillator frequency control system  
[NASA-CASE-GSC-12804-1] c 33 N86-20668

**FREQUENCY CONVERTERS**  
Frequency to analog converter Patent  
[NASA-CASE-XNP-07040] c 08 N71-12500

Static inverters which sum a plurality of waves Patent  
[NASA-CASE-XMF-00663] c 08 N71-18752

Voltage to frequency converter Patent  
[NASA-CASE-GSC-10022-1] c 10 N71-25882

Family of frequency to amplitude converters  
[NASA-CASE-MSC-12395] c 09 N72-25257

Variable frequency inverter for ac induction motors with torque, speed and braking control  
[NASA-CASE-MFS-22088-1] c 33 N75-15874

**FREQUENCY DISCRIMINATORS**  
PN lock indicator for dithered PN code tracking loop  
[NASA-CASE-NPO-14435-1] c 33 N81-33405

Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

Acoustic emission frequency discrimination  
[NASA-CASE-MSC-20467-1] c 35 N88-23966

**FREQUENCY DISTRIBUTION**  
Antenna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase Patent  
[NASA-CASE-XLA-00414] c 07 N70-38200

Variable frequency oscillator with temperature compensation Patent  
[NASA-CASE-XNP-03916] c 09 N71-28810

Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323

**FREQUENCY DIVIDERS**  
Low phase noise digital frequency divider  
[NASA-CASE-NPO-11569] c 10 N73-26229

Technique for extending the frequency range of digital dividers  
[NASA-CASE-LAR-10730-1] c 33 N74-10223

Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c 33 N75-31330

Electronic analog divider  
[NASA-CASE-LEW-11881-1] c 33 N77-17354

**FREQUENCY DIVISION MULTIPLEXING**  
Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621

Frequency division multiplex technique  
[NASA-CASE-KSC-10521] c 07 N73-20176

**FREQUENCY MEASUREMENT**  
Measurement system  
[NASA-CASE-MFS-20658-1] c 14 N73-30386

Frequency measurement by coincidence detection with standard frequency  
[NASA-CASE-MSC-14649-1] c 33 N76-16331

Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338

Method and apparatus for measuring frequency and phase difference  
[NASA-CASE-MSC-20865-1] c 32 N87-18692

Apparatus for using a time interval counter to measure frequency stability  
[NASA-CASE-NPO-17325-1-CU] c 32 N88-24846

Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

**FREQUENCY MODULATION**  
Accelerometer with FM output Patent  
[NASA-CASE-XLA-00492] c 14 N70-34799

Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11281

Bi-carrier demodulator with modulation Patent  
[NASA-CASE-XMF-01160] c 07 N71-11298

Optical tracker having overlapping reticles on parallel axes Patent  
[NASA-CASE-XGS-05715] c 23 N71-16100

Atomic hydrogen maser with bulb temperature control to remove wall shift in maser output frequency  
[NASA-CASE-HQN-10654-1] c 16 N73-13489

Junction range finder  
[NASA-CASE-KSC-10108] c 14 N73-25461

Automatic frequency control for FM transmitter  
[NASA-CASE-MFS-21540-1] c 32 N74-19790

Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c 33 N75-31330

Frequency modulated oscillator  
[NASA-CASE-MFS-23181-1] c 33 N77-17351

Fm/CW radar system  
[NASA-CASE-MFS-22234-1] c 32 N79-10264

Thickness measurement system  
[NASA-CASE-MFS-23721-1] c 31 N79-28370

Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510

Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227

**FREQUENCY MULTIPLIERS**

Multiple varactor frequency doubler Patent  
[NASA-CASE-XMF-04958-1] c 10 N71-26414

Open loop digital frequency multiplier  
[NASA-CASE-MSC-12709-1] c 33 N77-24375

**FREQUENCY RANGES**

Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964

Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266

Technique for extending the frequency range of digital dividers  
[NASA-CASE-LAR-10730-1] c 33 N74-10223

Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c 32 N76-14321

Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20289

Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-1] c 32 N79-19195

**FREQUENCY SCANNING**

Automatic communication signal monitoring system  
[NASA-CASE-NPO-13941-1] c 32 N79-10262

Frequency-scanning particle size spectrometer  
[NASA-CASE-NPO-13606-2] c 35 N80-18364

Apparatus and method for determining the position of a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341

**FREQUENCY SHIFT**

Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978

Serrodyne frequency converter re-entrant amplifier system Patent  
[NASA-CASE-XGS-01022] c 07 N71-16088

Elimination of frequency shift in a multiplex communication system Patent  
[NASA-CASE-XNP-01306] c 07 N71-20814

Laser fluid velocity detector Patent  
[NASA-CASE-XAC-10770-1] c 16 N71-24828

Laser Doppler velocity simulator --- to induce frequency shift  
[NASA-CASE-LAR-12176-1] c 36 N80-16321

**FREQUENCY SHIFT KEYING**

Frequency shift keyed demodulator Patent  
[NASA-CASE-XGS-02889] c 07 N71-11282

Frequency shift keying apparatus Patent  
[NASA-CASE-XGS-01537] c 07 N71-23405

Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863

**FREQUENCY STABILITY**

Method and apparatus for stabilizing a gaseous optical maser Patent  
[NASA-CASE-XGS-03644] c 16 N71-18614

Broadband stable power multiplier Patent  
[NASA-CASE-XNP-10854] c 10 N71-26331

Low phase noise oscillator using two parallel connected amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232

Apparatus for using a time interval counter to measure frequency stability  
[NASA-CASE-NPO-17325-1-CU] c 32 N88-24846

**FREQUENCY STANDARDS**

Method of resolving clock synchronization error and means therefor Patent  
[NASA-CASE-XNP-08875] c 10 N71-23099

Atomic standard with variable storage volume  
[NASA-CASE-GSC-11895-1] c 35 N76-15436

Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323

External bulb variable volume maser  
[NASA-CASE-GSC-12334-1] c 36 N79-14362

Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186

**FREQUENCY SYNCHRONIZATION**

Pseudonoise (PN) synchronization of data system with derivation of clock frequency from received signal for clocking receiver PN generator  
[NASA-CASE-XNP-03623] c 09 N73-28084

Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323

System for synchronizing synthesizers of communication systems  
[NASA-CASE-GSC-12148-1] c 32 N79-20296

**FREQUENCY SYNTHESIZERS**

Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525

System for synchronizing synthesizers of communication systems  
[NASA-CASE-GSC-12148-1] c 32 N79-20296

Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443

Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145

JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515

**FRICTION**

Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371

Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231

Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288

**FRICTION DRAG**

Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575

Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071

**FRICTION FACTOR**

Self-lubricating gears and other mechanical parts Patent  
[NASA-CASE-MFS-14971] c 15 N71-24984

Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492

**FRICTION MEASUREMENT**

Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995

Static coefficient test method and apparatus  
[NASA-CASE-GSC-11893-1] c 35 N76-31489

Two-axis, self-nulling skin friction balance  
[NASA-CASE-LAR-13294-1] c 35 N86-32696

**FRICTION REDUCTION**

Low friction magnetic recording tape Patent  
[NASA-CASE-XGS-00373] c 23 N71-15978

Production of hollow components for rolling element bearings by diffusion welding  
[NASA-CASE-LEW-11026-1] c 15 N73-33383

**FRICTIONLESS ENVIRONMENTS**

Air bearing Patent  
[NASA-CASE-XMF-01887] c 15 N71-10617

Air cushion lift pad Patent  
[NASA-CASE-MFS-14685] c 31 N71-15689

Method and apparatus of simulating zero gravity conditions Patent  
[NASA-CASE-MFS-12750] c 27 N71-16223

**FROST**

Insulating structure Patent  
[NASA-CASE-XMF-00341] c 15 N70-33323

Device for determining frost depth and density  
[NASA-CASE-MFS-25754-1] c 35 N84-28018

**FROZEN FOODS**

Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817

**FUEL CAPSULES**

Acoustic suspension system  
[NASA-CASE-NPO-15435-1] c 71 N83-36846

**FUEL CELL POWER PLANTS**

Reactant pressure differential control for fuel cell gases  
[NASA-CASE-MSC-20127-2] c 37 N85-34403

**FUEL CELLS**

Method of making membranes  
[NASA-CASE-XNP-04264] c 03 N69-21337

Combined electrolysis device and fuel cell and method of operation Patent  
[NASA-CASE-XLE-01645] c 03 N71-20904

Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022

Ion-exchange membrane with platinum electrode assembly Patent  
[NASA-CASE-XMS-02063] c 03 N71-29044

Reconstituted asbestos matrix --- for use in fuel or electrolysis cells  
[NASA-CASE-MSC-12568-1] c 24 N76-14204

Dual membrane hollow fiber fuel cell and method of operating same  
[NASA-CASE-NPO-13732-1] c 44 N79-10513

Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734

Reactant pressure differential control for fuel cell gases  
[NASA-CASE-MSC-20127-2] c 37 N85-34403

**FUEL COMBUSTION**

Fuel combustor  
[NASA-CASE-LEW-12137-1] c 25 N78-10224

Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958

**FUEL CONSUMPTION**

Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

## FUEL CONTROL

- Attitude and propellant flow control system and method Patent  
[NASA-CASE-XMF-00185] c 21 N70-34539
- Flexible ring slosh damping baffle Patent  
[NASA-CASE-LAR-10317-1] c 32 N71-16103
- Buoyant anti-slosh system Patent  
[NASA-CASE-XLA-04605] c 32 N71-16106
- Control valve and co-axial variable injector Patent  
[NASA-CASE-XNP-09702] c 15 N71-17654
- Force-balanced, throttle valve Patent  
[NASA-CASE-NPO-10808] c 15 N71-27432
- Gas turbine engine fuel control  
[NASA-CASE-LEW-11187-1] c 28 N73-19793
- Automotive gas turbine fuel control  
[NASA-CASE-LEW-12785-1] c 37 N78-24545
- Electrical servo actuator bracket --- fuel control valves on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483
- Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958
- FUEL FLOW**  
System for preconditioning a combustible vapor  
[NASA-CASE-NPO-12072] c 28 N72-22772
- FUEL FLOW REGULATORS**  
Two-step rocket engine bipropellant valve Patent  
[NASA-CASE-XMG-04330-1] c 15 N70-22132
- Passively regulated water electrolysis rocket engine Patent  
[NASA-CASE-XGS-08729] c 28 N71-14044
- Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12830-1] c 07 N77-23106
- FUEL GAGES**  
Response analyzers for sensors Patent  
[NASA-CASE-MFS-11204] c 14 N71-29134
- FUEL INJECTION**  
Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535
- Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c 28 N70-38199
- Injector assembly for liquid fueled rocket engines Patent  
[NASA-CASE-XMF-00968] c 28 N71-15660
- Injection head for delivering liquid fuel and oxidizers  
[NASA-CASE-NPO-10046] c 28 N72-17843
- Injector for use in high voltage isolators for liquid feed lines  
[NASA-CASE-NPO-11377] c 15 N73-27406
- Supercritical fuel injection system  
[NASA-CASE-LEW-12990-1] c 07 N81-29129
- Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314
- Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958
- Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420
- FUEL OILS**  
Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12830-1] c 07 N77-23106
- FUEL PUMPS**  
Fuel injection pump for internal combustion engines Patent  
[NASA-CASE-MSC-12139-1] c 28 N71-14058
- FUEL SYSTEMS**  
Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781
- System for preconditioning a combustible vapor  
[NASA-CASE-NPO-12072] c 28 N72-22772
- Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502
- Fuel combustor  
[NASA-CASE-LEW-12137-1] c 25 N78-10224
- Fuel delivery system including heat exchanger means  
[NASA-CASE-LEW-12793-1] c 37 N79-11403
- Supercritical fuel injection system  
[NASA-CASE-LEW-12990-1] c 07 N81-29129
- Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029
- Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389
- FUEL TANK PRESSURIZATION**  
Venting vapor apparatus Patent  
[NASA-CASE-XLE-00288] c 15 N70-34247
- Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042
- Propellant tank pressurization system Patent  
[NASA-CASE-XNP-00650] c 27 N71-28929
- FUEL TANKS**  
Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988
- Flexible ring slosh damping baffle Patent  
[NASA-CASE-LAR-10317-1] c 32 N71-16103
- Buoyant anti-slosh system Patent  
[NASA-CASE-XLA-04605] c 32 N71-16106

- Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387
- Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186
- High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523
- Tanker orbit transfer vehicle and method  
[NASA-CASE-MSC-20543-1] c 18 N84-22610
- Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841
- Cryogenic insulation system  
[NASA-CASE-LAR-13506-1] c 27 N89-12741
- Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843
- FUEL VALVES**  
Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535
- Semitoroidal diaphragm cavitating valve Patent  
[NASA-CASE-XNP-09704] c 12 N71-18615
- Filler valve Patent  
[NASA-CASE-XNP-01747] c 15 N71-23024
- Combination automatic-starting electrical plasma torch and gas shutoff valve --- for satellite attitude control  
[NASA-CASE-XLE-10717] c 37 N75-29426
- FUEL-AIR RATIO**  
Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195
- FUELS**  
Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103
- FUNCTION GENERATORS**  
Line following servosystem Patent  
[NASA-CASE-XAC-00001] c 15 N71-28952
- Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c 08 N72-20176
- Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-10503-1] c 09 N72-21248
- Function generator for synthesizing complex vibration mode patterns  
[NASA-CASE-LAR-10310-1] c 10 N73-20253
- Derivation of a tangent function using an integrated circuit four-quadrant multiplier  
[NASA-CASE-MSC-13907-1] c 10 N73-26230
- FURLABLE ANTENNAS**  
Unfurlable structure including coiled strips thrust launched upon tension release Patent  
[NASA-CASE-HQN-00937] c 07 N71-28979
- Singly-curved reflector for use in high-gain antennas  
[NASA-CASE-NPO-11361] c 07 N72-32169
- Furlable antenna --- antenna design  
[NASA-CASE-NPO-13553-1] c 33 N76-32457
- FURNACES**  
High-speed infrared furnace  
[NASA-CASE-XLE-10466] c 17 N69-25147
- Black-body furnace Patent  
[NASA-CASE-XLE-01399] c 33 N71-15625
- Induction furnace with perforated tungsten foil shielding Patent  
[NASA-CASE-XLE-04026] c 14 N71-23267
- High temperature furnace for melting materials in space  
[NASA-CASE-MFS-20710] c 11 N72-23215
- High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c 35 N76-24523
- Exothermic furnace module  
[NASA-CASE-MFS-25707-1] c 35 N82-26631
- Apparatus and method for heating a material in a transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220
- Apparatus and method for quiescent containerless processing of high temperature metals and alloys in low gravity  
[NASA-CASE-MFS-28087-1] c 35 N87-23944
- FUSELAGES**  
Fuselage structure using advanced technology fiber reinforced composites  
[NASA-CASE-LAR-11688-1] c 24 N82-26384
- Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975
- Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400
- Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765
- Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809
- FUSION (MELTING)**  
Bonding graphite with fused silver chloride  
[NASA-CASE-XGS-00963] c 15 N69-39735
- Method for fiberizing ceramic materials Patent  
[NASA-CASE-XNP-00597] c 18 N71-23088

- One-step dual purpose joining technique  
[NASA-CASE-LAR-12595-1] c 33 N82-26571
- Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748
- Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930
- Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083
- FUSION WELDING**  
Method for producing a solar cell having an integral protective covering  
[NASA-CASE-XGS-04531] c 03 N69-24267
- Weld control system using thermocouple wire Patent  
[NASA-CASE-MFS-06074] c 15 N71-20393
- Butt welder for fine gauge tungsten/rhenium thermocouple wire  
[NASA-CASE-LAR-10103-1] c 15 N73-14468
- Diffusion welding in air --- solid state welding of butt joint by fusion welding, surface cleaning, and heating  
[NASA-CASE-LEW-11387-1] c 37 N74-18128

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- Method of making a silicon semiconductor device Patent  
[NASA-CASE-XLE-02792] c 26 N71-10607
- Gd or Sm doped silicon semiconductor composition Patent  
[NASA-CASE-XLE-10715] c 26 N71-23292

## GALILEO PROJECT

- Reed-Solomon decoder  
[NASA-CASE-NPO-15982-1] c 60 N87-21591

## GALLIUM

- Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790

## GALLIUM ARSENIDES

- GaAs solar detector using manganese as a doping agent Patent  
[NASA-CASE-XNP-01328] c 26 N71-18064
- Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027
- Method of changing the conductivity of vapor deposited gallium arsenide by the introduction of water into the vapor deposition atmosphere Patent  
[NASA-CASE-XNP-01961] c 26 N71-29156
- Vapor phase growth of groups 3-5 compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c 25 N75-26043
- Vapor deposition apparatus --- semiconductors and gallium arsenides  
[NASA-CASE-HQN-10462] c 25 N75-29192
- GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150
- Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868
- GALLIUM PHOSPHIDES**  
Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868
- Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358

## GALVANIC SKIN RESPONSE

- Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-XFR-07658-1] c 05 N71-26293

## GAMMA RAY SPECTROMETERS

- Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659
- Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279

## GAMMA RAYS

- Compton scatter attenuation gamma ray spectrometer  
[NASA-CASE-MFS-21441-1] c 14 N73-30392
- Low intensity X-ray and gamma-ray imaging device --- fiber optics  
[NASA-CASE-GSC-12263-1] c 74 N79-20857
- Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920
- Three-dimensional and tomographic imaging device for X-ray and gamma-ray emitting objects  
[NASA-CASE-GSC-12851-1] c 35 N85-30281

## GANTRY CRANES

- Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c 03 N72-25021

## GAPS

- Electromagnetic transducer recording head having a laminated core section and tapered gap  
[NASA-CASE-NPO-10711-1] c 35 N77-21392
- Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709

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- Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189
- Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546
- Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736
- Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740
- Thermal garment  
[NASA-CASE-XMS-03694-1] c 54 N82-29002

## GAS ANALYSIS

- Gas analyzer for bi-gaseous mixtures Patent  
[NASA-CASE-XLA-01131] c 14 N71-10774
- Microbalance including crystal oscillators for measuring contaminants in a gas system Patent  
[NASA-CASE-NPO-10144] c 14 N71-17701
- Time of flight mass spectrometer with feedback means from the detector to the low source and a specific counter Patent  
[NASA-CASE-XNP-01056] c 14 N71-23041
- Dual resonant cavity absorption cell Patent  
[NASA-CASE-LAR-10305] c 14 N71-26137
- Ion microprobe mass spectrometer for analyzing fluid materials Patent  
[NASA-CASE-ERC-10014] c 14 N71-28863
- Nondispersive gas analyzing method and apparatus wherein radiation is serially passed through a reference and unknown gas  
[NASA-CASE-ARC-10308-1] c 06 N72-31141
- Method and apparatus for determining the contents of contained gas samples  
[NASA-CASE-GSC-10903-1] c 14 N73-12444
- Coaxial anode wire for gas radiation counters  
[NASA-CASE-GSC-11492-1] c 35 N74-26949
- Fast scan counter for deflection type mass spectrometers  
[NASA-CASE-LAR-11428-1] c 35 N74-34857
- NDIR gas analyzer based on absorption modulation ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c 35 N75-30502
- Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656
- Nulling device for detection of trace gases by NDIR absorption  
[NASA-CASE-ARC-10760-1] c 25 N76-22323
- Analysis of volatile organic compounds --- trace amounts of organic volatiles in gas samples  
[NASA-CASE-MSC-14428-1] c 23 N77-17161
- Fluid sampling device  
[NASA-CASE-GSC-12143-1] c 35 N77-32456
- Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015
- Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159
- Method and device for determining heats of combustion of gaseous hydrocarbons  
[NASA-CASE-LAR-13528-1] c 25 N88-29002

## GAS BAGS

- Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085

## GAS BEARINGS

- Externally pressurized fluid bearing Patent  
[NASA-CASE-XMF-00515] c 15 N70-34664
- Slit regulated gas journal bearing Patent  
[NASA-CASE-XNP-00476] c 15 N70-38620
- Air bearing Patent  
[NASA-CASE-XMF-00339] c 15 N70-39896
- Air bearing Patent  
[NASA-CASE-XMF-01887] c 15 N71-10617
- Fluid power transmission Patent  
[NASA-CASE-XMS-01445] c 12 N71-16031
- Bismuth-lead coatings for gas bearings used in atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c 15 N71-20739
- Swivel support for gas bearings Patent  
[NASA-CASE-XMF-07808] c 15 N71-23812
- Fluid power transmitting gas bearing Patent  
[NASA-CASE-ERC-10097] c 15 N71-28465
- Angular displacement indicating gas bearing support system Patent  
[NASA-CASE-XLA-09346] c 15 N71-28740
- Air bearing assembly for curved surfaces  
[NASA-CASE-MFS-20423] c 15 N72-11388
- Air bearing  
[NASA-CASE-WLP-10002] c 15 N72-17451
- Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c 37 N76-18459
- Thrust bearing  
[NASA-CASE-LEW-11949-1] c 37 N76-29588
- Cantilever mounted resilient pad gas bearing  
[NASA-CASE-LEW-12569-1] c 37 N79-10418
- Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606

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[NASA-CASE-XNP-04816] c 06 N69-39936
- Baseline stabilization system for ionization detector Patent  
[NASA-CASE-XNP-03128] c 10 N70-41991
- Procedure and apparatus for determination of water in nitrogen tetroxide  
[NASA-CASE-NPO-10234] c 06 N72-17094
- Analysis of hydrogen-deuterium mixtures  
[NASA-CASE-NPO-11322] c 06 N72-25146
- Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428
- Method and apparatus for determining the contents of contained gas samples  
[NASA-CASE-GSC-10903-1] c 14 N73-12444
- Gas chromatograph injection system  
[NASA-CASE-ARC-10344-2] c 35 N75-26334
- Chelate-modified polymers for atmospheric gas chromatography  
[NASA-CASE-ARC-11154-1] c 25 N80-23383
- GAS COMPOSITION**
- Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334
- Microwave limb sounder --- measuring trace gases in the upper atmosphere  
[NASA-CASE-NPO-14544-1] c 46 N82-12685
- Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217
- Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213

## GAS COOLED REACTORS

- Gas core nuclear reactor Patent  
[NASA-CASE-LEW-10250-1] c 22 N71-28759

## GAS COOLING

- Refrigeration apparatus  
[NASA-CASE-NPO-10309] c 15 N69-23190
- Gas cooled high temperature thermocouple Patent  
[NASA-CASE-XLE-09475-1] c 33 N71-15568
- Apparatus and method for heating a material in a transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220

## GAS DENSITY

- Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c 14 N70-41681
- Method for measuring the characteristics of a gas Patent  
[NASA-CASE-XLA-03375] c 16 N71-24074
- Device for measuring light scattering wherein the measuring beam is successively reflected between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c 14 N71-28994
- Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20597
- Method of producing crystalline materials  
[NASA-CASE-NPO-10440] c 15 N72-21466
- Wide range dynamic pressure sensor  
[NASA-CASE-ARC-10263-1] c 14 N72-22438
- Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394
- Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c 74 N76-20958
- Method and apparatus for convection control of metallic halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417

## GAS DETECTORS

- Method for detecting hydrogen gas  
[NASA-CASE-XMF-03873] c 06 N69-39733
- Hydrogen leak detection device Patent  
[NASA-CASE-MFS-11537] c 14 N71-20442
- Leak detector wherein a probe is monitored with ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c 15 N71-24896
- Miniature carbon dioxide sensor and methods  
[NASA-CASE-MSC-13332-1] c 14 N72-21408
- Fluorescence detector for monitoring atmospheric pollutants  
[NASA-CASE-NPO-13231-1] c 45 N75-27585
- Carbon monoxide monitor --- using real time operation  
[NASA-CASE-MFS-22060-1] c 35 N75-29380
- Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c 74 N76-20958
- Indicator providing continuous indication of the presence of a specific pollutant in air  
[NASA-CASE-NPO-13474-1] c 45 N76-21742
- Particulate and aerosol detector  
[NASA-CASE-LAR-11434-1] c 35 N76-22509
- Cryogenic liquid sensor  
[NASA-CASE-NPO-10619-1] c 35 N77-21393

- Optically selective, acoustically resonant gas detecting transducer  
[NASA-CASE-ARC-10639-1] c 35 N78-13400
- Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015
- Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159
- Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631

## GAS DISCHARGE TUBES

- Self-repeating plasma generator having communicating annular and linear arc discharge passages Patent  
[NASA-CASE-XLA-03103] c 25 N71-21693

## GAS DISCHARGES

- Parametric microwave noise generator Patent  
[NASA-CASE-XER-11019] c 09 N71-23598
- Multiplex electric discharge gas laser system  
[NASA-CASE-NPO-16433-1] c 36 N87-23961

## GAS EVOLUTION

- Filter system for control of outgas contamination in vacuum Patent  
[NASA-CASE-MFS-14711] c 15 N71-26185

## GAS EXPANSION

- Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051
- Refrigeration apparatus Patent  
[NASA-CASE-XNP-08877] c 15 N71-23025
- Gas operated actuator  
[NASA-CASE-NPO-11340] c 15 N72-33477

## GAS FLOW

- Fluid flow restrictor Patent  
[NASA-CASE-NPO-10117] c 15 N71-15608
- High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588
- Burst diaphragm flow initiator Patent  
[NASA-CASE-MFS-12915] c 11 N71-17600
- Method of recording a gas flow pattern Patent  
[NASA-CASE-XMF-01779] c 12 N71-20815
- Respiration monitor  
[NASA-CASE-FRC-10012] c 14 N72-17329
- Shock tube bypass piston tunnel  
[NASA-CASE-NPO-12109] c 11 N72-22245
- Fluidic proportional thruster system  
[NASA-CASE-ARC-10106-1] c 28 N72-22769
- Gas filter mounting structure  
[NASA-CASE-MSC-12297] c 14 N72-23457
- Pressurized lighting system  
[NASA-CASE-KSC-10644] c 09 N72-27227
- Method for controlling vapor content of a gas  
[NASA-CASE-NPO-10633] c 03 N72-28025
- Gas flow control device  
[NASA-CASE-NPO-11479] c 15 N73-13462
- Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c 35 N74-15127
- Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c 34 N74-27730
- Condensate removal device for heat exchanger  
[NASA-CASE-MSC-14143-1] c 77 N75-20139
- Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c 35 N75-30503
- Gas compression apparatus  
[NASA-CASE-MSC-14757-1] c 35 N78-10428
- Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384
- Covering solid, film cooled surfaces with a duplex thermal barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177
- Apparatus and method for destructive removal of particles contained in flowing fluid  
[NASA-CASE-NPO-15426-1] c 35 N84-17555
- Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433
- Technique for measuring gas conversion factors  
[NASA-CASE-LAR-13220-1] c 34 N86-12547
- Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304
- GAS GENERATORS**
- Specialized halogen generator for purification of water Patent  
[NASA-CASE-XLA-08913] c 14 N71-28933
- Quick disconnect coupling  
[NASA-CASE-NPO-11202] c 15 N72-25450
- Electrolytic gas operated actuator  
[NASA-CASE-NPO-11369] c 15 N73-13467
- Vortex breach high pressure gas generator  
[NASA-CASE-LAR-10549-1] c 31 N73-13898
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-1] c 37 N76-16446
- Hydrogen-rich gas generator  
[NASA-CASE-NPO-13464-1] c 44 N76-18642

## GAS GUNS

- Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c 44 N76-29704
- Hydrogen-rich gas generator  
[NASA-CASE-NPO-13560-1] c 44 N77-10636

## GAS GUNS

- Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c 25 N70-41628

## GAS HEATING

- Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126

## GAS INJECTION

- Burning rate control of solid propellants Patent  
[NASA-CASE-XLE-03494] c 27 N71-21819
- Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c 35 N74-15127
- Gas chromatograph injection system  
[NASA-CASE-ARC-10344-2] c 35 N75-26334
- In-situ laser retorting of oil shale  
[NASA-CASE-LEW-12217-1] c 43 N78-14452
- Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089
- Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579
- Solid solvent air sampler  
[NASA-CASE-MS-C-20653-1] c 35 N86-26595

## GAS IONIZATION

- Electrostatic plasma modulator for space vehicle re-entry communication Patent  
[NASA-CASE-XLA-01400] c 07 N70-41331
- A multichannel photoionization chamber for absorption analysis Patent  
[NASA-CASE-ERC-10044-1] c 14 N71-27090
- Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c 35 N76-18403
- Gas ion laser construction for electrically isolating the pressure gauge thereof  
[NASA-CASE-MFS-22597] c 36 N78-17366
- Charge transfer reaction laser with preionization means  
[NASA-CASE-NPO-13945-1] c 36 N78-27402
- Hydrogen hollow cathode ion source  
[NASA-CASE-LEW-12940-1] c 72 N80-33186

## GAS JETS

- Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

## GAS LASERS

- Method and apparatus for stabilizing a gaseous optical maser Patent  
[NASA-CASE-XGS-03644] c 16 N71-18614
- Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c 36 N75-32441
- Diffused waveguiding capillary tube with distributed feedback for a gas laser  
[NASA-CASE-NPO-13544-1] c 36 N76-18428
- Gas ion laser construction for electrically isolating the pressure gauge thereof  
[NASA-CASE-MFS-22597] c 36 N78-17366
- Charge transfer reaction laser with preionization means  
[NASA-CASE-NPO-13945-1] c 36 N78-27402
- Solar pumped laser  
[NASA-CASE-LAR-12870-1] c 36 N84-16542
- Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943
- Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204

## GAS LUBRICANTS

- Gas lubricant compositions Patent  
[NASA-CASE-XLE-00353] c 18 N70-39897
- Thrust bearing  
[NASA-CASE-LEW-11949-1] c 37 N76-29588
- Canilever mounted resilient pad gas bearing  
[NASA-CASE-LEW-12569-1] c 37 N79-10418
- Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490

## GAS MASERS

- Solid state chemical source for ammonia beam maser Patent  
[NASA-CASE-XGS-01504] c 16 N70-41578
- Atomic hydrogen maser with bulb temperature control to remove wall shift in maser output frequency  
[NASA-CASE-HQN-10654-1] c 16 N73-13489
- Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029
- Atomic standard with variable storage volume  
[NASA-CASE-GSC-11895-1] c 35 N76-15436

## GAS MIXTURES

- Gas analyzer for bi-gaseous mixtures Patent  
[NASA-CASE-XLA-01131] c 14 N71-10774

- Vapor pressure measuring system and method Patent  
[NASA-CASE-XMS-01618] c 14 N71-20741
- Mixture separation cell Patent  
[NASA-CASE-XMS-02952] c 18 N71-20742
- Analysis of hydrogen-deuterium mixtures  
[NASA-CASE-NPO-11322] c 06 N72-25146
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700
- Hydrogen-rich gas generator  
[NASA-CASE-NPO-13560-1] c 44 N77-10636
- Chemical vapor deposition reactor --- providing uniform film thickness  
[NASA-CASE-NPO-13650-1] c 25 N79-28253

## GAS PIPES

- Fluid flow restrictor Patent  
[NASA-CASE-NPO-10117] c 15 N71-15608
- Trailer shield assembly for a welding torch  
[NASA-CASE-MFS-29260-1] c 37 N88-24972

## GAS PRESSURE

- Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233
- Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c 14 N70-41681
- Wide range dynamic pressure sensor  
[NASA-CASE-ARC-10263-1] c 14 N72-22438
- Measurement of gas production of microorganisms using pressure sensors  
[NASA-CASE-LAR-11326-1] c 35 N75-33368
- Depressurization of arc lamps  
[NASA-CASE-NPO-10790-1] c 33 N77-21316
- Pressure limiting propellant actuating system  
[NASA-CASE-MS-C-18179-1] c 20 N80-18097
- Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
[NASA-CASE-NPO-14596-3] c 31 N83-31896

## GAS STREAMS

- Method for measuring the characteristics of a gas Patent  
[NASA-CASE-XLA-03375] c 16 N71-24074
- Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c 35 N74-32878
- Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067
- Simultaneous treatment of SO<sub>2</sub> containing stack gases and waste water  
[NASA-CASE-MS-C-16258-1] c 45 N79-12584
- Gas levitator having fixed levitation node for containerless processing  
[NASA-CASE-MFS-25509-1] c 35 N83-24828

## GAS TEMPERATURE

- Method for measuring the characteristics of a gas Patent  
[NASA-CASE-XLA-03375] c 16 N71-24074

## GAS TRANSPORT

- Purging means and method for Xenon arc lamps  
[NASA-CASE-NPO-11978] c 31 N78-17238

## GAS TUBES

- Toggle mechanism for pinching metal tubes  
[NASA-CASE-GSC-12274-1] c 37 N79-28550

## GAS TURBINE ENGINES

- Gas turbine engine fuel control  
[NASA-CASE-LEW-11187-1] c 28 N73-19793
- Swirl can primary combustor  
[NASA-CASE-LEW-11326-1] c 23 N73-30665
- Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LEW-11593-1] c 20 N76-14190
- Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c 27 N76-16229
- Dual output variable pitch turbofan actuation system  
[NASA-CASE-LEW-12419-1] c 07 N77-14025
- Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12830-1] c 07 N77-23106
- Blade retainer assembly  
[NASA-CASE-LEW-12608-1] c 07 N77-27116
- Nickel base alloy --- for gas turbine engine stator vanes  
[NASA-CASE-LEW-12270-1] c 26 N77-32280
- Bearing seat usable in a gas turbine engine  
[NASA-CASE-LEW-12477-1] c 37 N77-32501
- Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12321-1] c 37 N78-10467
- Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384
- Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-2] c 07 N78-18066
- Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067
- Automotive gas turbine fuel control  
[NASA-CASE-LEW-12785-1] c 37 N78-24545
- Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089

- Independent power generator  
[NASA-CASE-LAR-11208-1] c 44 N78-32539
- Redundant disc  
[NASA-CASE-LEW-12496-1] c 07 N78-33101
- Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-3] c 07 N79-14096
- Variable area exhaust nozzle  
[NASA-CASE-LEW-12378-1] c 07 N79-14097
- Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-14318
- Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999
- Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115
- Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366
- Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603
- Silicon-slurry/aluminide coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795
- Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029
- Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560
- Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577
- Air modulation apparatus  
[NASA-CASE-LEW-13524-1] c 07 N84-33410
- Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490
- Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606
- Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389
- Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978

## GAS TURBINES

- Gas turbine combustor Patent  
[NASA-CASE-LEW-10286-1] c 28 N71-28915
- Gas turbine exhaust nozzle --- for noise reduction  
[NASA-CASE-LEW-11569-1] c 07 N74-15453
- Gas turbine engine with convertible accessories  
[NASA-CASE-LEW-12390-1] c 07 N78-17056
- Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090
- Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c 34 N78-27357
- Apparatus and method for reducing thermal stress in a turbine rotor  
[NASA-CASE-LEW-12232-1] c 07 N79-10057
- Method and turbine for extracting kinetic energy from a stream of two-phase fluid  
[NASA-CASE-NPO-14130-1] c 34 N79-20335
- Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188

## GAS VALVES

- High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817
- Shrink-fit gas valve Patent  
[NASA-CASE-XGS-00587] c 15 N70-35087
- Thermally operated valve Patent  
[NASA-CASE-XLE-00815] c 15 N70-35407
- Transfer valve Patent  
[NASA-CASE-XAC-01158] c 15 N71-23051
- Slow opening valve --- valve design for shuttle portable oxygen system  
[NASA-CASE-MS-C-20112-1] c 37 N85-20338

## GAS WELDING

- Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871
- Grain refinement control in TIG arc welding  
[NASA-CASE-MS-C-19095-1] c 37 N75-19683

## GAS-LIQUID INTERACTIONS

- Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c 34 N75-26282

## GAS-METAL INTERACTIONS

- Improved refractory coatings --- sputtered coatings on substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209

- Refractory coatings and method of producing the same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415

## GASDYNAMIC LASERS

- Diatom infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426

**GASEOUS DIFFUSION**

- Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080
- Gas core nuclear reactor Patent  
[NASA-CASE-LEW-10250-1] c 22 N71-28759
- Gas diffusion liquid storage bag and method of use for storing blood  
[NASA-CASE-NPO-13930-1] c 52 N79-14749

**GASEOUS FISSION REACTORS**

- Gas core nuclear reactor Patent  
[NASA-CASE-LEW-10250-1] c 22 N71-28759

**GASEOUS ROCKET PROPELLANTS**

- Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245
- Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c 28 N71-22983

**GASES**

- Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372
- Observation window for a gas confining chamber  
[NASA-CASE-NPO-10890] c 11 N73-12265
- Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484
- Low gravity phase separator  
[NASA-CASE-MSC-14773-1] c 35 N78-12390
- Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345
- Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843

**GASIFICATION**

- Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950

**GASKETS**

- Cryogenic connector for vacuum use Patent  
[NASA-CASE-XGS-02441] c 15 N70-41629
- Reinforced polyquinoxaline gasket and method of preparing the same --- resistant to ionizing radiation and liquid hydrogen temperatures  
[NASA-CASE-MFS-21364-1] c 37 N74-18126
- Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744

**GATES (CIRCUITS)**

- Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon Patent  
[NASA-CASE-XGS-01881] c 09 N70-40123
- SCR blocking pulse gate amplifier Patent  
[NASA-CASE-XLA-07497] c 09 N71-12514
- Logic AND gate for fluid circuits Patent  
[NASA-CASE-XLA-07391] c 12 N71-17579
- Synchronous counter Patent  
[NASA-CASE-XGS-02440] c 08 N71-19432
- Increasing efficiency of switching type regulator circuits Patent  
[NASA-CASE-XMS-09352] c 09 N71-23316
- Memory device for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-2] c 60 N78-10709
- Transformer regulated self-stabilizing chopper  
[NASA-CASE-XGS-09186] c 33 N78-17295
- Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352
- Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345
- Pulsed phase locked loop strain monitor --- voltage controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626
- FET charge sensor and voltage probe  
[NASA-CASE-NPO-16045-1] c 76 N87-13313

**GATES (OPENINGS)**

- Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935

**GAU-1 AIRFOIL**

- Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAU-1 airfoil  
[NASA-CASE-LAR-10585-1] c 02 N76-22154

**GEAR TEETH**

- Wobble gear drive mechanism --- for aerospace environments  
[NASA CASE WOO 00625] c 37 N78-17395
- Belt for transmitting power from a cogged driving member to a cogged driven member  
[NASA-CASE-GSC-12289-1] c 37 N80-32717

**GEARS**

- Precision stepping drive Patent  
[NASA-CASE-MFS-14772] c 15 N71-17692
- Bidirectional step torque filter with zero backlash characteristic Patent  
[NASA-CASE-XGS-04227] c 15 N71-21744

Self-lubricating gears and other mechanical parts Patent

- [NASA-CASE-MFS-14971] c 15 N71-24984
- Concentric differential gearing arrangement  
[NASA-CASE-ARC-10462-1] c 37 N74-27901
- Sequencing device utilizing planetary gear set  
[NASA-CASE-MSC-19514-1] c 37 N79-20377
- Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-14318
- Clutchless multiple drive source for output shaft  
[NASA-CASE-ARC-11325-1] c 37 N82-22496
- Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084
- Linear force device  
[NASA-CASE-MSC-20549-2] c 35 N88-24927

**GELATION**

- Method of controlling a resin curing process --- for fiber reinforced composites  
[NASA-CASE-MSC-21169-1] c 27 N87-25473

**GELLED ROCKET PROPELLANTS**

- Process of forming particles in a cryogenic path Patent  
[NASA-CASE-NPO-10250] c 23 N71-16212

**GELS**

- Intermittent type silica gel adsorption refrigerator Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906
- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894
- Method of dispensing reagent chemicals in space  
[NASA-CASE-LAR-13607-1-CU] c 29 N88-29048

**GENERAL AVIATION AIRCRAFT**

- Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992

**GENERATORS**

- Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c 34 N74-27730
- Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178
- A digitally controlled system for effecting and presenting a selected electrical resistance  
[NASA-CASE-MFS-29149-1] c 33 N87-29737

**GEODESY**

- Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681

**GEODETIC SURVEYS**

- Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-1] c 36 N81-22344

**GEODIMETERS**

- Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-1] c 36 N81-22344

**GEOLOGICAL SURVEYS**

- Borehole geological assessment  
[NASA-CASE-NPO-14231-1] c 46 N80-10709
- Geological assessment probe  
[NASA-CASE-NPO-14558-1] c 46 N80-24906

**GEOMETRY**

- Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612
- Ice detector  
[NASA-CASE-LAR-13776-1] c 35 N88-29149

**GERMANIUM**

- Germanium coated microbridge and method  
[NASA-CASE-MFS-23274-1] c 33 N78-13320

**GERMANIUM ALLOYS**

- Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358

**GIMBALS**

- Gimballed, partially submerged rocket nozzle Patent  
[NASA-CASE-XMF-01544] c 28 N70-34162
- Azimuth laying system Patent  
[NASA-CASE-XMF-01669] c 21 N71-23289
- Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694
- Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c 15 N71-26243
- Bearing and gimbal lock mechanism and spiral flex lead module Patent  
[NASA-CASE-GSC-10556-1] c 31 N71-26537
- Failure detection and control means for improved drift performance of a gimballed platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175
- Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047
- Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

**GLANDS (SEALS)**

- Spiral groove seal  
[NASA-CASE-XLE-10326-2] c 15 N72-29488
- Circumferential shaft seal  
[NASA-CASE-LEW-12119-2] c 37 N81-26447

**GLASS**

- Method for producing a solar cell having an integral protective covering  
[NASA-CASE-XGS-04531] c 03 N69-24267
- Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988
- Silicon solar cell with cover glass bonded to cell by metal pattern Patent  
[NASA-CASE-XLE-08569] c 03 N71-23449
- Apparatus for applying cover slides  
[NASA-CASE-NPO-10575] c 03 N72-25019
- Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063
- Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c 44 N76-14600
- Window defect planar mapping technique  
[NASA-CASE-MSC-19442-1] c 74 N77-10899
- Method of forming shrink-fit compression seal  
[NASA-CASE-LAR-11563-1] c 37 N77-23482
- Reaction cured glass and glass coatings  
[NASA-CASE-ARC-11051-1] c 27 N78-32260
- Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442
- Method for milling and drilling glass  
[NASA-CASE-GSC-12636-1] c 31 N83-27058
- Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781
- Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589

**GLASS COATINGS**

- Method of attaching a cover glass to a silicon solar cell Patent  
[NASA-CASE-XLE-08569-2] c 03 N71-24681
- Process for glass coating an ion accelerator grid Patent  
[NASA-CASE-LEW-10278-1] c 15 N71-28582
- Method of coating solar cell with borosilicate glass and resultant product  
[NASA-CASE-GSC-11514-1] c 03 N72-24037
- Transmitting and reflecting diffuser --- using ultraviolet grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879
- Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520
- High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448

**GLASS ELECTRODES**

- Liquid junction and method of fabricating the same Patent Application  
[NASA-CASE-NPO-10682] c 15 N70-34699
- Apparatus and method of inserting a microelectrode in body tissue or the like using vibration means  
[NASA-CASE-NPO-13910-1] c 52 N79-27836

**GLASS FIBER REINFORCED PLASTICS**

- Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915
- Method of manufacture of bonded fiber flywheel --- fiberglass-epoxy  
[NASA-CASE-MFS-23674-1] c 24 N81-29163

**GLASS FIBERS**

- Non-magnetic battery case Patent  
[NASA-CASE-XGS-00886] c 03 N71-11053
- Lathe tool bit and holder for machining fiberglass materials  
[NASA-CASE-XLA-10470] c 15 N72-21489
- Polyimide resin-fiberglass cloth laminates for printed circuit boards  
[NASA-CASE-MFS-20408] c 18 N73-12604
- Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c 24 N74-30001
- Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c 27 N76-15310
- Vacuum pressure molding technique  
[NASA-CASE-LAR-10073-1] c 37 N76-24575
- Glass compositions with a high modulus of elasticity --- nontoxic glass fibers  
[NASA-CASE-HQN-10274-1] c 27 N82-29451
- High modulus invert analog glass compositions containing beryllia  
[NASA-CASE-HQN-10931-2] c 27 N82-29452
- Method and technique for installing light-weight, fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-16934-3] c 24 N84-16262
- Containerless high purity pulling process and apparatus for glass fiber  
[NASA-CASE-MFS-25905-2] c 31 N86-21718

## GLASSWARE

- Quasi-containerless glass formation method and apparatus  
[NASA-CASE-MFS-28090-1] c 27 N87-21111
- GLASSWARE**  
Laboratory glassware rack for seismic safety  
[NASA-CASE-ARC-11422-1] c 35 N86-20751
- GLAUCOMA**  
Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12955-1] c 52 N80-14684
- GLIDE PATHS**  
Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-12930
- GLOBAL POSITIONING SYSTEM**  
Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546  
High dynamic global positioning system receiver  
[NASA-CASE-NPO-16171-1CU] c 04 N86-27270
- GLOBES**  
Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015
- GLOVES**  
Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23060  
Restraining mechanism  
[NASA-CASE-MSC-13054] c 54 N78-17677  
Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-2] c 54 N84-23113  
Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-1] c 54 N84-28484
- GLOW DISCHARGES**  
Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c 27 N74-13270  
Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233  
Electric discharge for treatment of trace contaminants  
[NASA-CASE-ARC-10975-1] c 33 N79-15245  
Use of glow discharge in fluidized beds  
[NASA-CASE-ARC-11245-1] c 28 N82-18401
- GLUCOSE**  
Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487
- GLYCOLS**  
Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043
- GOLD COATINGS**  
Thin window, drifted silicon, charged particle detector  
[NASA-CASE-XLE-10529] c 14 N69-23191  
Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205
- GONDOLAS**  
System for stabilizing torque between a balloon and gondola  
[NASA-CASE-GSC-11077-1] c 02 N73-13008
- GRANULAR MATERIALS**  
Soil particles separator, collector and viewer Patent  
[NASA-CASE-XNP-09770] c 15 N71-20440  
Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597
- GRAPHITE**  
Bonding graphite with fused silver chloride  
[NASA-CASE-XGS-00963] c 15 N69-39735  
Method of preparing graphite reinforced aluminum composite  
[NASA-CASE-MFS-21077-1] c 24 N75-28135  
Method of adhering bone to a rigid substrate using a graphite fiber reinforced bone cement  
[NASA-CASE-NPO-13764-1] c 27 N78-17215  
Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103  
Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950  
Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489  
Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267  
Light weight fire resistant graphite composites  
[US-PATENT-4,598,007] c 24 N86-28131
- GRAPHITE-EPOXY COMPOSITES**  
Partial interlaminar separation system for composites  
[NASA-CASE-LAR-12065-1] c 24 N81-14000  
Method and device for detection of a substance --- determining carbon fiber release in fire situations  
[NASA-CASE-NPO-14940-1] c 33 N83-31954  
Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613

- Method for machining holes in composite materials  
[NASA-CASE-MFS-28044-1] c 31 N87-25491
- GRAPHITIZATION**  
Brominated graphite fibers and method of producing the same  
[NASA-CASE-LEW-14698-1] c 24 N88-29888  
Graphite fluoride fiber polymer composite material  
[NASA-CASE-LEW-14472-1] c 24 N89-14259
- GRATINGS (SPECTRA)**  
Concave grating spectrometer Patent  
[NASA-CASE-XGS-01036] c 14 N70-40003  
Diffractoid grating configuration for X-ray and ultraviolet focusing  
[NASA-CASE-GSC-12357-1] c 74 N80-21140  
Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768
- GRAVIMETERS**  
Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587
- GRAVITATION**  
Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c 16 N73-33397  
Anti-gravity device  
[NASA-CASE-MFS-22756-1] c 70 N75-26769
- GRAVITATIONAL CONSTANT**  
Gravity device Patent  
[NASA-CASE-XMF-00424] c 11 N70-38196
- GRAVITATIONAL EFFECTS**  
Locomotion and restraint aid Patent  
[NASA-CASE-ARC-10153] c 05 N71-28619  
Rotary plant growth accelerating apparatus --- weightlessness  
[NASA-CASE-ARC-10722-1] c 51 N75-25503  
Method and apparatus for simulating gravitational forces on a living organism  
[NASA-CASE-MSC-20202-1] c 54 N84-16803  
Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629
- GRAVITATIONAL FIELDS**  
Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537  
Process for preparation of large-particle-size monodisperse latexes  
[NASA-CASE-MFS-25000-1] c 25 N81-19242
- GRAVITY GRADIENT SATELLITES**  
Stabilization of gravity oriented satellites Patent  
[NASA-CASE-XAC-01591] c 31 N71-17729  
Station keeping of a gravity gradient stabilized satellite  
[NASA-CASE-XLA-03132] c 31 N71-22969
- GRAVITY GRADIOMETERS**  
Gravity device Patent  
[NASA-CASE-XMF-00424] c 11 N70-38196  
Gravity gradient attitude control system Patent  
[NASA-CASE-GSC-10555-1] c 21 N71-27324
- GRAZING INCIDENCE**  
Diffractoid grating configuration for X-ray and ultraviolet focusing  
[NASA-CASE-GSC-12357-1] c 74 N80-21140  
Multispectral glancing incidence X-ray telescope  
[NASA-CASE-MFS-28013-1] c 89 N86-22459
- GRAZING INCIDENCE TELESCOPES**  
Multispectral glancing incidence X-ray telescope  
[NASA-CASE-MFS-28013-1] c 89 N86-22459
- GRIDS**  
Method of making dished ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310  
Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c 37 N76-14461  
Method of constructing dished ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276  
Solar cell grid patterns  
[NASA-CASE-NPO-13087-2] c 44 N76-31666
- GRINDING (MATERIAL REMOVAL)**  
Laser apparatus for removing material from rotating objects Patent  
[NASA-CASE-MFS-11279] c 16 N71-20400  
Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering  
[NASA-CASE-LEW-10450-1] c 15 N72-25448  
Method of forming a sharp edge on an optical device  
[NASA-CASE-GSC-12348-1] c 74 N80-24149
- GRINDING MACHINES**  
Grinding arrangement for ball nose milling cutters  
[NASA-CASE-LAR-10450-1] c 37 N74-27905
- GROOVES**  
Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c 15 N71-22877  
Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c 37 N74-10474  
Spiral groove seal --- for rotating shaft  
[NASA-CASE-XLE-10326-4] c 37 N74-15125

- Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180
- GROUND EFFECT (COMMUNICATIONS)**  
Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390
- GROUND EFFECT MACHINES**  
Gravity stabilized flying vehicle Patent  
[NASA-CASE-MSC-12111-1] c 02 N71-11039  
Air cushion lift pad Patent  
[NASA-CASE-MFS-14685] c 31 N71-15689  
Open tube guideway for high speed air cushioned vehicles  
[NASA-CASE-LAR-10256-1] c 85 N74-34672
- GROUND HANDLING**  
Supporting and protecting device Patent  
[NASA-CASE-XMF-00580] c 11 N70-35383
- GROUND STATIONS**  
Traffic control system and method Patent  
[NASA-CASE-GSC-10087-1] c 02 N71-19287  
Method and apparatus for mapping planets  
[NASA-CASE-NFO-11001] c 07 N72-21118  
Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323
- GROUND SUPPORT EQUIPMENT**  
Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391  
Controlled release device Patent  
[NASA-CASE-XKS-03338] c 15 N71-24043  
Apparatus for measuring an aircraft's speed and height  
[NASA-CASE-LAR-12275-1] c 35 N79-18296
- GROUND-AIR-GROUND COMMUNICATION**  
Retrodirective optical system  
[NASA-CASE-XGS-04480] c 16 N69-27491  
Closed loop ranging system Patent  
[NASA-CASE-XNP-01501] c 21 N70-41930  
Location identification system  
[NASA-CASE-ERC-10324] c 07 N72-25173  
Satellite personal communications system  
[NASA-CASE-NPO-14480-1] c 32 N80-20448
- GROUT**  
Antenna grout replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043
- GUARDS (SHIELDS)**  
Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343  
Trailer shield assembly for a welding torch  
[NASA-CASE-MFS-29260-1] c 37 N88-24972
- GUIDANCE (MOTION)**  
Gravity stabilized flying vehicle Patent  
[NASA-CASE-MSC-12111-1] c 02 N71-11039  
Adjustable attitude guide device Patent  
[NASA-CASE-XLA-07911] c 15 N71-15571  
Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935  
Two component bearing Patent  
[NASA-CASE-XLA-00013] c 15 N71-29136  
Cable stabilizer for open shaft cable operated elevators  
[NASA-CASE-KSC-10513] c 15 N72-25453  
Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288
- GUIDANCE SENSORS**  
Light sensitive digital aspect sensor Patent  
[NASA-CASE-XGS-00359] c 14 N70-34158  
Guidance and maneuver analyzer Patent  
[NASA-CASE-XNP-09572] c 14 N71-15621  
Optical machine tool alignment indicator Patent  
[NASA-CASE-XAC-09489-1] c 15 N71-26673  
Light sensor  
[NASA-CASE-NPO-11311] c 14 N72-25414  
Sun direction detection system  
[NASA-CASE-NPO-13722-1] c 74 N77-22951  
Sun sensing guidance system for high altitude aircraft  
[NASA-CASE-FRC-11052-1] c 04 N82-23231  
Phase sensitive guidance sensor for wire-following vehicles  
[NASA-CASE-NPO-15341-1] c 35 N84-33769
- GUN LAUNCHERS**  
Self-obturbating, gas operated launcher  
[NASA-CASE-NPO-11013] c 11 N72-22247
- GUN PROPELLANTS**  
Nitramine propellants --- gun propellant burning rate  
[NASA-CASE-NPO-14103-1] c 28 N78-31255  
Hypervelocity gun --- using both electric and chemical energy for projectile propulsion  
[NASA-CASE-XLE-03186-1] c 09 N79-21084
- GUNN EFFECT**  
Voltage tunable Gunn-type microwave generator Patent  
[NASA-CASE-XER-07894] c 09 N71-18721  
Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701



Gunn-type solid state devices  
[NASA-CASE-XER-07895] c 26 N72-25679  
Magnetically actuated tuning method for Gunn oscillators  
[NASA-CASE-NPO-12106] c 09 N73-15235

**GUNS**

Method of peening and portable peening gun  
[NASA-CASE-MFS-23047-1] c 37 N76-18454

**GYNECOLOGY**

Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875

**GYRATORS**

Gyrator type circuit Patent  
[NASA-CASE-XAC-10608-1] c 09 N71-12517  
Gyrator employing field effect transistors  
[NASA-CASE-MFS-21433] c 09 N73-20232  
Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638  
Integrable power gyrator --- with Z-matrix design using parallel transistors  
[NASA-CASE-MFS-22342-1] c 33 N75-30428

**GYROSCOPES**

Externally pressurized fluid bearing Patent  
[NASA-CASE-XMF-00515] c 15 N70-34664  
Air bearing Patent  
[NASA-CASE-XMF-00339] c 15 N70-39896  
Spacecraft experiment pointing and attitude control system Patent  
[NASA-CASE-XLA-05464] c 21 N71-14132  
Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c 35 N74-15094  
All sky pointing attitude control system  
[NASA-CASE-ARC-10716-1] c 35 N77-20399

**GYROSCOPIC PENDULUMS**

Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047

**GYROSTABILIZERS**

Passive dual spin misalignment compensators --- gyro-stabilized device  
[NASA-CASE-GSC-11479-1] c 35 N74-28097  
Annular momentum control device used for stabilization of space vehicles and the like  
[NASA-CASE-LAR-11051-1] c 15 N76-14158  
Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

**H****HAFNIUM**

Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c 18 N73-14584

**HALIDES**

Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering  
[NASA-CASE-LEW-10450-1] c 15 N72-25448  
Zinc-halide battery with molten electrolyte  
[NASA-CASE-NPO-11961-1] c 44 N76-18643

**HALL EFFECT**

Hall current measuring apparatus having a series resistor for temperature compensation Patent  
[NASA-CASE-XAC-01662] c 14 N71-23037  
Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904  
Hall effect transducer  
[NASA-CASE-LAR-10620-1] c 09 N72-25255  
Redundant speed control for brushless Hall effect motor  
[NASA-CASE-MFS-20207-1] c 09 N73-32107  
Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c 35 N75-13213  
Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569

**HALL GENERATORS**

Hall current measuring apparatus having a series resistor for temperature compensation Patent  
[NASA-CASE-XAC-01662] c 14 N71-23037

**HALOGENS**

Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739

**HAMMERS**

Apparatus for making diamonds  
[NASA-CASE-MFS-20698] c 15 N72-20446

**HAND (ANATOMY)**

Mechanically actuated triggered hand  
[NASA-CASE-MFS-20413] c 15 N72-21463  
Therapeutic hand exerciser  
[NASA-CASE-LAR-11667-1] c 52 N76-19785  
Compact artificial hand  
[NASA-CASE-NPO-13906-1] c 54 N79-24652

**HANDLING EQUIPMENT**

Supporting and protecting device Patent  
[NASA-CASE-XMF-00580] c 11 N70-35383  
Device for handling printed circuit cards Patent  
[NASA-CASE-MFS-20453] c 15 N71-29133

**HARDENING (MATERIALS)**

Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236

**HARDNESS**

Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153

**HARMONIC GENERATORS**

Wide band doubler and sine wave quadrature generator  
[NASA-CASE-NPO-11133] c 10 N72-20223

**HARNESSES**

Pressure suit tie-down mechanism Patent  
[NASA-CASE-XMS-00784] c 05 N71-12335  
One hand backpack harness  
[NASA-CASE-LAR-10102-1] c 05 N72-23085  
Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c 05 N75-25915

**HATCHES**

Emergency escape system Patent  
[NASA-CASE-MSC-12086-1] c 05 N71-12345  
Hatch cover  
[NASA-CASE-MSC-21356-1] c 18 N88-24671

**HEAD-UP DISPLAYS**

Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733

**HEART FUNCTION**

Ratemeter  
[NASA-CASE-MFS-20418] c 14 N73-24473  
Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c 52 N74-20726

**HEART RATE**

Digital cardiometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896  
Ratemeter  
[NASA-CASE-MFS-20418] c 14 N73-24473  
Digital computing cardiometer  
[NASA-CASE-MFS-20284-1] c 52 N74-12778  
Pulse transducer with artifact signal attenuator --- heart rate sensors  
[NASA-CASE-FRC-11012-1] c 52 N80-23969

**HEAT**

Thermionic converter with current augmented by self induced magnetic field Patent  
[NASA-CASE-XLE-01903] c 22 N71-23599

**HEAT EXCHANGERS**

Electro-thermal rocket Patent  
[NASA-CASE-XLE-00267] c 28 N70-33356  
Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439  
Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725  
Shell side liquid metal boiler  
[NASA-CASE-NPO-10831] c 33 N72-20915  
Helium refrigerator and method for decontaminating the refrigerator  
[NASA-CASE-NPO-10634] c 23 N72-25619  
Condensate removal device for heat exchanger  
[NASA-CASE-MSC-14143-1] c 77 N75-20139  
Heat exchanger system and method  
[NASA-CASE-LAR-10799-2] c 34 N76-17317  
Heat transfer device  
[NASA-CASE-MFS-22938-1] c 34 N76-18374  
Heat exchanger  
[NASA-CASE-MFS-22991-1] c 34 N77-10463  
Flat-plate heat pipe  
[NASA-CASE-GSC-11998-1] c 34 N77-32413  
Combustor --- low nitrogen oxide formation  
[NASA-CASE-NPO-13958-1] c 25 N79-11151  
Fuel delivery system including heat exchanger means  
[NASA-CASE-LEW-12793-1] c 37 N79-11403  
Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c 34 N79-13288  
Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289  
Thermal energy transformer  
[NASA-CASE-NPO-14058-1] c 44 N79-18443  
Portable breathing system --- a breathing apparatus using a re-breathing system of heat exchangers for carbon dioxide removal  
[NASA-CASE-MSC-16182-1] c 54 N80-10799  
Heat exchanger and method of making --- rocket lining  
[NASA-CASE-LEW-12441-2] c 34 N80-24573  
Heat exchanger and method of making  
[NASA-CASE-LEW-12441-3] c 44 N81-24519  
Cycling Joule Thomson refrigerator  
[NASA-CASE-NPO-15251-1] c 31 N83-31897

Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082  
Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875  
Monogroove cold plate  
[NASA-CASE-MSC-20946-1] c 34 N87-28867  
High effectiveness contour matching contact heat exchanger  
[NASA-CASE-MSC-20840-1] c 34 N88-29132  
Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

**HEAT FLUX**

Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459  
Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085  
Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948

**HEAT MEASUREMENT**

Thermal detector of electromagnetic energy by means of a vibrating electrode Patent  
[NASA-CASE-XAC-10768] c 09 N71-18830  
Specific wavelength colorimeter --- for measuring given solute concentration in test sample  
[NASA-CASE-MSC-14081-1] c 35 N74-27860  
Method and device for determining heats of combustion of gaseous hydrocarbons  
[NASA-CASE-LAR-13528-1] c 25 N88-29002

**HEAT OF COMBUSTION**

Method and device for determining heats of combustion of gaseous hydrocarbons  
[NASA-CASE-LAR-13528-1] c 25 N88-29002

**HEAT OF VAPORIZATION**

Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950

**HEAT PIPES**

Heat pipe thermionic diode power system Patent  
[NASA-CASE-XMF-05843] c 03 N71-11055  
Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486  
Isothermal cover with thermal reservoirs Patent  
[NASA-CASE-MFS-20355] c 33 N71-25353  
Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c 34 N75-12222  
Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c 34 N76-27515  
Production of I-123  
[NASA-CASE-LEW-11390-3] c 25 N76-29379  
Heat pipe with dual working fluids  
[NASA-CASE-ARC-10198] c 34 N78-17336  
Multi-chamber controllable heat pipe  
[NASA-CASE-ARC-10199] c 34 N78-17337  
Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523  
High thermal power density heat transfer --- thermionic converters  
[NASA-CASE-LEW-12950-1] c 34 N82-11399  
Heat pipes containing alkali metal working fluid  
[NASA-CASE-LEW-12253-1] c 74 N83-19596  
Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307  
Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461  
Heat pipe cooled probe  
[NASA-CASE-LAR-12588-1] c 34 N85-21568  
High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12950-2] c 34 N85-29179  
Multi-leg heat pipe evaporator  
[NASA-CASE-MSC-20812-1] c 34 N86-27593  
Monogroove cold plate  
[NASA-CASE-MSC-20946-1] c 34 N87-28867  
Space vehicle thermal rejection system  
[NASA-CASE-LAR-13738-1] c 18 N87-29586  
Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133

**HEAT PUMPS**

Thermal pump-compressor for space use Patent  
[NASA-CASE-XLA-00377] c 33 N71-17610  
Manually actuated heat pump  
[NASA-CASE-NPO-10677] c 05 N72-11084  
Pump for delivering heated fluids  
[NASA-CASE-NPO-11471] c 15 N73-24513  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-1] c 34 N78-17335  
Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-3] c 34 N83-29625

**HEAT RADIATORS**

Capillary radiator Patent  
[NASA-CASE-XLE-03307] c 33 N71-14035



- Radiator deployment actuator Patent  
[NASA-CASE-MSC-11817-1] c 15 N71-26611  
Space simulation and radiative property testing system and method Patent  
[NASA-CASE-MFS-20096] c 14 N71-30026  
Space vehicle thermal rejection system  
[NASA-CASE-LAR-13738-1] c 18 N87-29586

**HEAT RESISTANT ALLOYS**

- High temperature nickel-base alloy Patent  
[NASA-CASE-XLE-00151] c 17 N70-33283  
Nickel-base alloy Patent  
[NASA-CASE-XLE-00283] c 17 N70-36616  
High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-02991] c 17 N71-16025  
Brazing alloy Patent  
[NASA-CASE-XNP-03063] c 17 N71-23365  
Method of forming superalloys  
[NASA-CASE-LEW-10805-1] c 15 N73-13465  
Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c 37 N74-11301  
Method of forming articles of manufacture from superalloy powders  
[NASA-CASE-LEW-10805-2] c 37 N74-13179  
Refractory porcelain enamel passive control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c 27 N75-27160  
Cermets composition and method of fabrication --- heat resistant alloys and powders  
[NASA-CASE-NPO-13120-1] c 27 N76-15311  
Metallic hot wire anemometer --- for high speed wind tunnel tests  
[NASA-CASE-ARC-10911-1] c 35 N77-20400  
Method of growing composites of the type exhibiting the Soret effect --- improved structure of eutectic alloy crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187  
Directionally solidified eutectic gamma plus beta nickel-base superalloys  
[NASA-CASE-LEW-12906-1] c 26 N77-32279  
Nickel base alloy --- for gas turbine engine stator vanes  
[NASA-CASE-LEW-12270-1] c 26 N77-32280  
Directionally solidified eutectic gamma-gamma nickel-base superalloys  
[NASA-CASE-LEW-12905-1] c 26 N78-18183  
Coating with overlay metallic-cermet alloy systems  
[NASA-CASE-LEW-13639-2] c 26 N84-27855  
Heat treatment for superalloy  
[NASA-CASE-LEW-14262-1] c 26 N87-28647  
Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650

**HEAT SHIELDING**

- Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459  
Heat shield oven  
[NASA-CASE-XMS-04318] c 15 N69-27871  
Heat shield Patent  
[NASA-CASE-XMS-00486] c 33 N70-33344  
Sandwich panel construction Patent  
[NASA-CASE-XLA-00349] c 33 N70-37979  
Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c 31 N70-41631  
Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075  
Azine polymers and process for preparing the same Patent  
[NASA-CASE-XMF-08656] c 06 N71-11242  
Synthesis of polymeric Schiff bases by reaction of acetals and amine compounds Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243  
Lightweight refractory insulation and method of preparing the same Patent  
[NASA-CASE-XMF-05279] c 18 N71-16124  
Thermal radiation shielding Patent  
[NASA-CASE-XLE-03432] c 33 N71-24145  
Spacecraft Patent  
[NASA-CASE-MSC-13047-1] c 31 N71-25434  
Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MSC-12109] c 18 N71-26285  
Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221  
Thermal insulation protection means  
[NASA-CASE-MSC-12737-1] c 24 N79-25142  
Installing fiber insulation  
[NASA-CASE-MSC-16973-1] c 37 N81-14317  
Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363  
Multiwall thermal protection system  
[NASA-CASE-LAR-12620-1] c 24 N82-32417  
High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908  
Mechanical fastener  
[NASA-CASE-LAR-12738-2] c 37 N85-30335

**HEAT SINKS**

- Thermal conductive connection and method of making same Patent  
[NASA-CASE-XMS-02087] c 09 N70-41717  
Constant temperature heat sink for calorimeters Patent  
[NASA-CASE-XMF-04208] c 33 N71-29051  
Tubular sublimatory evaporator heat sink  
[NASA-CASE-ARC-10912-1] c 34 N77-19353  
Compact pulsed laser having improved heat conductance  
[NASA-CASE-NPO-13147-1] c 36 N77-25502  
Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168  
Electroexplosive device  
[NASA-CASE-NPO-13858-1] c 28 N79-11231  
Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523  
Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307  
Self-actuating heat switches for redundant refrigeration systems  
[NASA-CASE-NPO-17085-1-CU] c 31 N89-12785

**HEAT SOURCES**

- Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475  
Thermally cascaded thermoelectric generator  
[NASA-CASE-NPO-10753] c 03 N72-26031  
Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876  
Portable electrophoresis apparatus using minimum electrolyte  
[NASA-CASE-NPO-13274-1] c 25 N79-10163  
Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MSC-25707-1] c 35 N85-29214  
High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938

**HEAT STORAGE**

- Solar energy trap  
[NASA-CASE-MFS-22744-1] c 44 N76-24696  
Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667  
Saltless solar pond  
[NASA-CASE-NPO-15808-1] c 44 N84-34792  
Stable density stratification solar pond  
[NASA-CASE-NPO-15419-2] c 44 N85-30474

**HEAT TRANSFER**

- Thermal switch Patent  
[NASA-CASE-XNP-00463] c 33 N70-36847  
Sandwich panel construction Patent  
[NASA-CASE-XLA-00349] c 33 N70-37979  
Apparatus for transferring cryogenic liquids Patent  
[NASA-CASE-XLE-00345] c 15 N70-38020  
Method of improving heat transfer characteristics in a nucleate boiling process Patent  
[NASA-CASE-XMS-04268] c 33 N71-16277  
Transmission line thermal short Patent  
[NASA-CASE-XNP-09775] c 09 N71-20445  
Heat sensing instrument Patent  
[NASA-CASE-XLA-01551] c 14 N71-22989  
Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199  
Heat conductive resiliently compressible structure for space electronics package modules Patent  
[NASA-CASE-MSC-12389] c 33 N71-29052  
Space simulation and radiative property testing system and method Patent  
[NASA-CASE-MFS-20096] c 14 N71-30026  
Manually actuated heat pump  
[NASA-CASE-NPO-10677] c 05 N72-11084  
High intensity radiant energy pulse source having means for opening shutter when light flux has reached a desired level  
[NASA-CASE-ARC-10178-1] c 09 N72-17152  
Apparatus for sensing temperature  
[NASA-CASE-XLE-05230] c 14 N72-27410  
Thermal control system for a spacecraft modular housing  
[NASA-CASE-GSC-11018-1] c 31 N73-30829  
Thermal flux transfer system  
[NASA-CASE-NPO-12070-1] c 28 N73-32606  
Electrostatically controlled heat shutter  
[NASA-CASE-NPO-11942-1] c 33 N73-32818  
Heat transfer device  
[NASA-CASE-NPO-11120-1] c 34 N74-18552  
Heat exchanger  
[NASA-CASE-MFS-22991-1] c 34 N77-10463  
Heat pipe with dual working fluids  
[NASA-CASE-ARC-10198] c 34 N78-17336  
Low cost cryostat  
[NASA-CASE-NPO-14513-1] c 35 N81-14287  
Heat exchanger and method of making  
[NASA-CASE-LEW-12441-3] c 44 N81-24519

**Thermochemical generation of hydrogen**

- [NASA-CASE-NPO-15015-1] c 25 N82-28368  
Heat pipes containing alkali metal working fluid  
[NASA-CASE-LEW-12253-1] c 74 N83-19596  
Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356  
Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307  
Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560  
Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958  
High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12950-2] c 34 N85-29179  
Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180  
Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950  
Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-2] c 34 N88-23958  
Method and apparatus for growing crystals  
[NASA-CASE-MFS-28137-1] c 76 N88-24544

**HEAT TRANSMISSION**

- Heat flow calorimeter --- measures output of Ni-Cd batteries  
[NASA-CASE-GSC-11434-1] c 34 N74-27859  
Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876  
Heat transparent high intensity high efficiency solar cell  
[NASA-CASE-LEW-12892-1] c 44 N83-14692

**HEAT TREATMENT**

- High-speed infrared furnace  
[NASA-CASE-XLE-10466] c 17 N69-25147  
Heat shield oven  
[NASA-CASE-XMS-04318] c 15 N69-27871  
Method for molding compounds Patent  
[NASA-CASE-XLA-01091] c 15 N71-10672  
Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468  
Inorganic thermal control pigment Patent  
[NASA-CASE-XNP-02139] c 18 N71-24184  
Thermal compression bonding of interconnectors  
[NASA-CASE-GSC-10303] c 15 N72-22487  
Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c 26 N74-10521  
Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c 37 N74-21055  
Heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c 54 N75-27761  
Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236  
Method for detecting pollutants --- through chemical reactions and heat treatment  
[NASA-CASE-LAR-11405-1] c 45 N76-31714  
Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c 26 N78-24333  
Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450  
Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492  
Active hold-down for heat treating  
[NASA-CASE-NPO-16892-1-CU] c 37 N87-14704  
Heat treatment for superalloy  
[NASA-CASE-LEW-14262-1] c 26 N87-28647  
Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656  
Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894

**HEATERS**

- Inherent redundancy electric heater  
[NASA-CASE-MFS-21462-1] c 33 N74-14935

**HEATING**

- System for preconditioning a combustible vapor  
[NASA-CASE-NPO-12072] c 28 N72-22772  
Diffusion welding in air --- solid state welding of butt joint by fusion welding, surface cleaning, and heating  
[NASA-CASE-LEW-11387-1] c 37 N74-18128  
Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221  
Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MSC-25707-1] c 35 N85-29214  
Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151

**HEATING EQUIPMENT**  
Method and apparatus for controllably heating fluid Patent  
[NASA-CASE-XMF-04237] c 33 N71-16278

Electric arc apparatus Patent  
[NASA-CASE-XAC-01677] c 09 N71-20816

Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948

Self-cycling fluid heater  
[NASA-CASE-MS-C-15567-1] c 33 N73-16918

Portable heatable container  
[NASA-CASE-NPO-14237-1] c 44 N80-20808

Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589

Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286

Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575

**HEIGHT**  
Sideloading laser altimeter for a flight simulator  
[NASA-CASE-ARC-11312-1] c 36 N83-34304

**HELICAL ANTENNAS**  
Weatherproof helix antenna Patent  
[NASA-CASE-XKS-08485] c 07 N71-19493

Collapsible high gain antenna  
[NASA-CASE-KSC-10392] c 07 N73-26117

**HELICOPTER CONTROL**  
Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809

**HELICOPTER DESIGN**  
Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809

**HELICOPTER WAKES**  
Variable geometry rotor system  
[NASA-CASE-LAR-10557] c 02 N72-11018

**HELICOPTERS**  
Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029

Non-destructive method for applying and removing instrumentation on helicopter rotor blades  
[NASA-CASE-LAR-11201-1] c 35 N78-24515

Constant lift rotor for a heavier than air craft  
[NASA-CASE-ARC-11045-1] c 05 N79-17847

Shapes for rotating airfoils  
[NASA-CASE-LAR-12396-1] c 02 N84-28732

Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400

Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631

High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

**HELIOSTATS**  
Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520

**HELIUM**  
Helium refining by superfluidity Patent  
[NASA-CASE-XNP-00733] c 06 N70-34946

High pressure helium purifier Patent  
[NASA-CASE-XMF-06888] c 15 N71-24044

Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c 36 N76-29575

Cryostat system for temperatures on the order of 2 deg K or less  
[NASA-CASE-NPO-13459-1] c 31 N77-10229

Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029

Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082

**HELIUM HYDROGEN ATMOSPHERES**  
Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334

**HELIUM IONS**  
Charge transfer reaction laser with preionization means  
[NASA-CASE-NPO-13945-1] c 36 N78-27402

**HELIUM-NEON LASERS**  
Laser communication system for controlling several functions at a location remote to the laser  
[NASA-CASE-LAR-10311-1] c 16 N73-16536

Direction sensitive laser velocimeter --- determining the direction of particles using a helium-neon laser  
[NASA-CASE-LAR-12177-1] c 36 N81-24422

**HELMETS**

Helmet assembly and latch means therefor Patent  
[NASA-CASE-XMS-04935] c 05 N71-11190

Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193

Venting device for pressurized space suit helmet Patent  
[NASA-CASE-XMS-09652-1] c 05 N71-26333

Helmet latching and attaching ring  
[NASA-CASE-XMS-04670] c 54 N78-17678

Protective garment ventilation system  
[NASA-CASE-XMS-04928] c 54 N78-17679

Helmet feedport  
[NASA-CASE-XMS-09653] c 54 N78-17680

Emergency space-suit helmet  
[NASA-CASE-MS-C-10954-1] c 54 N78-18761

Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806

**HELMHOLTZ RESONATORS**

Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933

**HEMISPHERICAL SHELLS**

Anti-glare improvement for optical imaging systems Patent  
[NASA-CASE-NPO-10337] c 14 N71-15604

**HERMETIC SEALS**

Line cutter Patent  
[NASA-CASE-XMS-04072] c 15 N70-42017

Hermetically sealed explosive release mechanism Patent  
[NASA-CASE-XGS-00824] c 15 N71-16078

Traveling sealer for contoured table Patent  
[NASA-CASE-XLA-01494] c 15 N71-24164

Method for detecting leaks in hermetically sealed containers Patent  
[NASA-CASE-ERC-10045] c 15 N71-24910

Hermetic sealed vibration damper Patent  
[NASA-CASE-MS-C-10959] c 15 N71-26243

Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312

Pressure seal Patent  
[NASA-CASE-NPO-10796] c 15 N71-27068

Tube sealing device Patent  
[NASA-CASE-NPO-10431] c 15 N71-29132

Hermetically sealed elbow actuator  
[NASA-CASE-MFS-14710] c 09 N72-22195

Heat transfer device  
[NASA-CASE-NPO-11120-1] c 34 N74-18552

Device for tensioning test specimens within an hermetically sealed chamber  
[NASA-CASE-MFS-23281-1] c 35 N77-22450

Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721

Hermetic seal for a shaft  
[NASA-CASE-NPO-15115-1] c 37 N82-24493

Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334

Hermetically sealable package for hybrid solid-state electronic devices and the like  
[NASA-CASE-MS-C-20181-1] c 33 N88-23941

**HEXAGONS**

Hexagon solar power panel  
[NASA-CASE-NPO-12148-1] c 44 N78-27515

**HEXAMETHYLENETETRAAMINE**

Structural wood panels with improved fire resistance  
[NASA-CASE-ARC-11174-1] c 24 N81-13999

**HEXOKINASE**

Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487

**HIGH ACCELERATION**

Universal pilot restraint suit and body support therefor Patent  
[NASA-CASE-XAC-00405] c 05 N70-41819

High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272

**HIGH ALTITUDE**

Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c 05 N69-21473

Sun sensing guidance system for high altitude aircraft  
[NASA-CASE-FRC-11052-1] c 04 N82-23231

**HIGH ALTITUDE BALLOONS**

Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015

Thin film strain transducer --- suitable for in-flight measurement of scientific balloon strain  
[NASA-CASE-WLP-10055-2] c 35 N85-21598

**HIGH ALTITUDE ENVIRONMENTS**

Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779

**HIGH ASPECT RATIO**

Landing arrangement for aerial vehicles Patent  
[NASA-CASE-XLA-00142] c 02 N70-33286

Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858

Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279

**HIGH FREQUENCIES**

Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c 09 N69-24318

Holder for crystal resonators Patent  
[NASA-CASE-XNP-03637] c 15 N71-21311

Multiple varactor frequency doubler Patent  
[NASA-CASE-XMF-04958-1] c 10 N71-26414

Filtering technique based on high-frequency plant modeling for high-gain control  
[NASA-CASE-LAR-12215-1] c 08 N79-23097

Method of and apparatus for double-exposure holographic interferometry  
[NASA-CASE-MFS-25405-1] c 35 N84-22929

JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515

**HIGH GAIN**

Filtering technique based on high-frequency plant modeling for high-gain control  
[NASA-CASE-LAR-12215-1] c 08 N79-23097

**HIGH PASS FILTERS**

Radio frequency coaxial high pass filter Patent  
[NASA-CASE-XGS-01418] c 09 N71-23573

**HIGH POLYMERS**

Variable stiffness polymeric damper  
[NASA-CASE-XLA-11225] c 14 N69-27486

**HIGH POWER LASERS**

Large volume multiple-path nuclear pumped laser  
[NASA-CASE-LAR-12592-1] c 36 N82-13415

Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418

High power metallic halide laser --- amplifying a copper chloride laser  
[NASA-CASE-NPO-14782-1] c 36 N82-28616

Solar pumped laser  
[NASA-CASE-LAR-12870-1] c 36 N84-16542

**HIGH PRESSURE**

High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817

High pressure four-way valve Patent  
[NASA-CASE-XNP-00214] c 15 N70-36908

High pressure filter Patent  
[NASA-CASE-XNP-00732] c 28 N70-41447

Antiflutter ball check valve Patent  
[NASA-CASE-XNP-01152] c 15 N70-41811

Liquid flow joint assembly Patent  
[NASA-CASE-XLE-02998] c 14 N70-42074

High pressure regulator valve Patent  
[NASA-CASE-XNP-00710] c 15 N71-10778

Hypersonic test facility Patent  
[NASA-CASE-XLA-00378] c 11 N71-15925

High pressure air valve Patent  
[NASA-CASE-MS-C-11010] c 15 N71-19485

Valve seat with resilient support member Patent  
[NASA-CASE-XKS-02582] c 15 N71-21234

High pressure helium purifier Patent  
[NASA-CASE-XMF-06888] c 15 N71-24044

Liquid aerosol dispenser  
[NASA-CASE-MFS-20829] c 12 N72-21310

Gas compression apparatus  
[NASA-CASE-MS-C-14757-1] c 35 N78-10428

Purging means and method for Xenon arc lamps  
[NASA-CASE-NPO-11978] c 31 N78-17238

Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475

Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MS-C-18422-1] c 37 N82-16408

Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788

High-temperature, high-pressure optical cell  
[NASA-CASE-MFS-26000-1] c 74 N87-14971

Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

**HIGH RESOLUTION**

High pulse rate high resolution optical radar system  
[NASA-CASE-NPO-11426] c 07 N73-26119

High resolution Fourier interferometer-spectrophotopolarimeter  
[NASA-CASE-NPO-13604-1] c 35 N76-31490

High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877

Interferometer --- high resolution  
[NASA-CASE-NPO-14448-1] c 74 N81-29963

High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898

Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705

## HIGH SPEED

- Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c 05 N69-21473
- High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c 09 N70-39915
- Impact testing machine Patent  
[NASA-CASE-XNP-04817] c 14 N71-23225
- Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692
- High speed rolling element bearing  
[NASA-CASE-LEW-10856-1] c 15 N72-22490
- Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MFS-22287-1] c 75 N76-14931
- Selective data segment monitoring system --- using shift registers  
[NASA-CASE-ARC-10899-1] c 60 N77-19760
- Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475
- High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898
- Pressure measuring probe  
[NASA-CASE-LAR-13853-1] c 35 N89-14423
- HIGH SPEED CAMERAS**  
Electrically-operated rotary shutter Patent  
[NASA-CASE-XNP-00637] c 14 N70-40273
- HIGH STRENGTH**  
Method of making fiber composites  
[NASA-CASE-LEW-10424-2-2] c 18 N72-25539
- High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436
- HIGH STRENGTH ALLOYS**  
High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-00726] c 17 N71-15644
- Low temperature aluminum alloy Patent  
[NASA-CASE-XMF-02786] c 17 N71-20743
- Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent  
[NASA-CASE-XLE-03940] c 18 N71-26153
- Nickel base alloy  
[NASA-CASE-LEW-10874-1] c 17 N72-22535
- Cobalt-base alloy  
[NASA-CASE-LEW-10436-1] c 17 N73-32415
- High toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-3] c 26 N80-32484
- HIGH STRENGTH STEELS**  
Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions --- by adding potassium hydroxide to hydrazine  
[NASA-CASE-NPO-12122-1] c 24 N76-14203
- Process for making a high toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-2] c 26 N79-22271
- HIGH TEMPERATURE**  
High temperature heat source Patent  
[NASA-CASE-XLE-00490] c 33 N70-34545
- Thermionic diode switch Patent  
[NASA-CASE-NPO-10404] c 03 N71-12255
- Hypersonic test facility Patent  
[NASA-CASE-XLA-00378] c 11 N71-15925
- Method for fiberizing ceramic materials Patent  
[NASA-CASE-XNP-00597] c 18 N71-23088
- Induction furnace with perforated tungsten foil shielding Patent  
[NASA-CASE-XLE-04026] c 14 N71-23267
- Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312
- Method of making fiber composites  
[NASA-CASE-LEW-10424-2-2] c 18 N72-25539
- Method of forming superalloys  
[NASA-CASE-LEW-10805-1] c 15 N73-13465
- High temperature beryllium oxide capacitor  
[NASA-CASE-LEW-11938-1] c 33 N76-15373
- Low to high temperature energy conversion system  
[NASA-CASE-NPO-13510-1] c 44 N77-32581
- Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346
- High thermal power density heat transfer --- thermionic converters  
[NASA-CASE-LEW-12950-1] c 34 N82-11399
- Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555
- Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-5] c 27 N85-21352
- Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489
- Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721
- High-temperature, high-pressure optical cell  
[NASA-CASE-MFS-26000-1] c 74 N87-14971

Method of making a flexible diaphragm  
[NASA-CASE-MSC-20797-1] c 37 N87-23981

## HIGH TEMPERATURE AIR

Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10612-1] c 12 N73-28144

## HIGH TEMPERATURE ENVIRONMENTS

- High-speed infrared furnace  
[NASA-CASE-XLE-10466] c 17 N69-25147
- Nickel-base alloy Patent  
[NASA-CASE-XLE-00283] c 17 N70-36616
- Strain sensor for high temperatures Patent  
[NASA-CASE-XNP-09205] c 14 N71-17657
- Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c 33 N76-21390
- Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c 31 N76-31365
- Installing fiber insulation  
[NASA-CASE-MSC-16973-1] c 37 N81-14317
- Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188
- High temperature penetrator assembly with bayonet plug and ramp-activated lock  
[NASA CASE MSC 19526 1] c 37 N82 24404
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Heat pipe cooled probe  
[NASA-CASE-LAR-12588-1] c 34 N85-21568
- Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233
- HIGH TEMPERATURE FLUIDS**  
Self-cycling fluid heater  
[NASA-CASE-MSC-15567-1] c 33 N73-16918
- High-temperature microphone system --- for measuring pressure fluctuations in gases at high temperature  
[NASA-CASE-LAR-12375-1] c 32 N79-24203

## HIGH TEMPERATURE GASES

- Instrument for the quantitative measurement of radiation at multiple wave lengths Patent  
[NASA-CASE-XLE-00011] c 14 N70-41946
- Ablative resin Patent  
[NASA-CASE-XLE-05913] c 33 N71-14032
- Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641
- Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10578-1] c 12 N73-25262
- Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477
- Start up system for hydrogen generator used with an internal combustion engine  
[NASA-CASE-NPO-13849-1] c 28 N80-10374
- Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790
- Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370
- Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144

## HIGH TEMPERATURE LUBRICANTS

- Method of making self lubricating fluoride- metal composite materials Patent  
[NASA-CASE-XLE-08511-2] c 18 N71-16105
- Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710
- Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916

## HIGH TEMPERATURE PLASMAS

Method and apparatus for producing a plasma Patent  
[NASA-CASE-XLA-00147] c 25 N70-34661

## HIGH TEMPERATURE PROPELLANTS

Feed system for an ion thruster  
[NASA-CASE-NPO-10737] c 28 N72-11709

## HIGH TEMPERATURE RESEARCH

- Gas cooled high temperature thermocouple Patent  
[NASA-CASE-XLE-09475-1] c 33 N71-15568
- Light shield and infrared reflector for fatigue testing Patent  
[NASA-CASE-XLA-01782] c 14 N71-26136
- High temperature oxidation resistant cermet compositions  
[NASA-CASE-NPO-13666-1] c 27 N77-13217
- HIGH TEMPERATURE TESTS**  
High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817
- High temperature testing apparatus Patent  
[NASA-CASE-XLE-00335] c 14 N70-35368
- Apparatus for positioning and loading a test specimen Patent  
[NASA-CASE-XLE-01300] c 15 N70-41993

Containerless high temperature calorimeter apparatus  
[NASA-CASE-MFS-23923-1] c 35 N81-19426

Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221

## HIGH VACUUM

- Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974
- Vacuum evaporator with electromagnetic ion steering Patent  
[NASA-CASE-NPO-10331] c 09 N71-26701
- Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394
- Plasma cleaning device --- designed for high vacuum environments  
[NASA-CASE-MFS-22906-1] c 75 N78-27913

## HIGH VACUUM ORBITAL SIMULATOR

Space environmental work simulator Patent  
[NASA-CASE-XMF-07488] c 11 N71-18773

## HIGH VOLTAGES

- Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c 09 N69-21542
- High-voltage cable Patent  
[NASA-CASE-XNP-00738] c 09 N70-38201
- High voltage pulse generator Patent  
[NASA-CASE-MSC-12178-1] c 09 N71-13518
- High voltage transistor circuit Patent  
[NASA-CASE-XNP-06937] c 09 N71-19516
- High voltage divider system Patent  
[NASA-CASE-XLE-02008] c 09 N71-21583
- High voltage distributor  
[NASA-CASE-GSC-11849-1] c 33 N76-16332
- Sustained arc ignition system  
[NASA-CASE-LEW-12444-1] c 33 N77-28385
- High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764
- Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126
- High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177
- High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146
- High voltage power supply  
[NASA-CASE-GSC-12818-1] c 33 N85-29147
- Coaxial tube tether/transmission line for manned nuclear space power  
[NASA-CASE-LEW-14338-1] c 20 N87-10174
- HIGHWAYS**  
Traffic survey system --- using optical scanners  
[NASA-CASE-MFS-22631-1] c 66 N76-19888

## HINGES

- Foldable beam  
[NASA-CASE-LAR-12077-1] c 31 N81-25259
- Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605
- Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413
- Locking hinge  
[NASA-CASE-MSC-21056-1] c 18 N88-23827
- Payload deployment method and system  
[NASA-CASE-MSC-21330-1] c 16 N88-24660
- Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621

## HISTOGRAMS

Data compression system  
[NASA-CASE-XNP-09785] c 08 N69-21928

## HOLDERS

- Water cooled contactor for anode in carbon arc mechanism  
[NASA-CASE-XMS-03700] c 15 N69-24266
- Quick disconnect latch and handle combination Patent  
[NASA-CASE-MFS-11132] c 15 N71-17649
- Holder for crystal resonators Patent  
[NASA-CASE-XNP-03637] c 15 N71-21311
- Adjustable force probe  
[NASA-CASE-MFS-20760] c 14 N72-33377
- Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477
- Combined docking and grasping device  
[NASA-CASE-MFS-23088-1] c 37 N77-23483
- Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913
- Method and apparatus for holding two separate metal pieces together for welding  
[NASA-CASE-GSC-12318-1] c 37 N80-23655
- Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
[NASA-CASE-NPO-15227-1] c 37 N81-33482
- Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469

Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441

Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492

Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312

Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491

Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12881-1] c 27 N84-14323

Method and apparatus for gripping uniaxial fibrous composite materials  
[NASA-CASE-LEW-13758-1] c 24 N84-27829

Laboratory glassware rack for seismic safety  
[NASA-CASE-ARC-11422-1] c 35 N86-20751

Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698

Active hold-down for heat treating  
[NASA-CASE-NPO-16892-1-CU] c 37 N87-14704

Apparatus for mounting a field emission cathode  
[NASA-CASE-LEW-14108-1] c 33 N87-28832

Gripping device  
[NASA-CASE-MSC-21365-1] c 37 N89-12865

**HOLE DISTRIBUTION (MECHANICS)**  
Thermocouple installation  
[NASA-CASE-NPO-13540-1] c 35 N77-14409

**HOLE GEOMETRY (MECHANICS)**  
Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361

**HOLE MOBILITY**  
Depositing semiconductor films utilizing a thermal gradient  
[NASA-CASE-XKS-04614] c 15 N69-21460

**HOLES (MECHANICS)**  
Hole cutter --- drill bits and rotating shaft  
[NASA-CASE-MFS-22649-1] c 37 N75-25186

Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361

**HOLLOW**  
Dual membrane hollow fiber fuel cell and method of operating same  
[NASA-CASE-NPO-13732-1] c 44 N79-10513

**HOLLOW CATHODES**  
Hydrogen hollow cathode ion source  
[NASA-CASE-LEW-12940-1] c 72 N80-33186

Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491

**HOLMIUM**  
Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856

**HOLOGRAPHIC INTERFEROMETRY**  
Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577

Method of and apparatus for double-exposure holographic interferometry  
[NASA-CASE-MFS-25405-1] c 35 N84-22929

Dual wavelength holographic interferometry system  
[NASA-CASE-MFS-28242-1] c 35 N88-23960

**HOLOGRAPHY**  
Focused image holography with extended sources Patent  
[NASA-CASE-ERC-10019] c 16 N71-15551

Hybrid holographic system using reflected and transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c 16 N71-15565

Recording and reconstructing focused image holograms Patent  
[NASA-CASE-ERC-10017] c 16 N71-15567

Method and means for recording and reconstructing holograms without use of a reference beam Patent  
[NASA-CASE-ERC-10020] c 16 N71-26154

Multiple image storing system for high speed projectile holography  
[NASA-CASE-MFS-20596] c 14 N72-17324

Holographic thin film analyzer  
[NASA-CASE-MFS-20823-1] c 16 N73-30476

Method and apparatus for checking the stability of a setup for making reflection type holograms  
[NASA-CASE-MFS-21455-1] c 35 N74-15146

Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c 35 N74-17153

Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946

Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c 35 N75-25124

Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MFS-22537-1] c 35 N75-27328

Holographic motion picture camera with Doppler shift compensation  
[NASA-CASE-MFS-22517-1] c 35 N76-18402

Optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c 43 N77-10584

**HOMING DEVICES**  
Location identification system  
[NASA-CASE-ERC-10324] c 07 N72-25173

**HONEYCOMB CORES**  
Method of making inflatable honeycomb Patent  
[NASA-CASE-XLA-03492] c 15 N71-22713

Method of forming shapes from planar sheets of thermosetting materials  
[NASA-CASE-NPO-11036] c 15 N72-24522

Honeycomb core structures of minimal surface tubule sections  
[NASA-CASE-ERC-10363] c 18 N72-25541

**HONEYCOMB STRUCTURES**  
Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322

Inflatable honeycomb Patent  
[NASA-CASE-XLA-00204] c 32 N70-36536

Fluid flow control valve Patent  
[NASA-CASE-XLE-00703] c 15 N71-15967

Method and apparatus for making a heat insulating and ablative structure Patent  
[NASA-CASE-XMS-02009] c 33 N71-20834

Honeycomb panel and method of making same Patent  
[NASA-CASE-XMF-01402] c 18 N71-21651

Cryogenic thermal insulation Patent  
[NASA-CASE-XMF-05046] c 33 N71-28892

Honeycomb panels formed of minimal surface periodic tubule layers  
[NASA-CASE-ERC-10364] c 18 N72-25540

Bonding or repairing process  
[NASA-CASE-MSC-12357] c 15 N73-12489

Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968

Vacuum pressure molding technique  
[NASA-CASE-LAR-10073-1] c 37 N76-24575

Honeycomb-laminate composite structure  
[NASA-CASE-ARC-10913-1] c 24 N78-15180

Method of making a composite sandwich lattice structure  
[NASA-CASE-LAR-11898-2] c 24 N78-17149

Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915

Ceramic honeycomb structures and the method thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737

**HOOP COLUMN ANTENNAS**  
Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791

**HOPPERS**  
Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1-CU] c 31 N88-24814

**HORIZON SCANNERS**  
Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461

Multi-lobar scan horizon sensor Patent  
[NASA-CASE-XGS-00809] c 21 N70-35427

Altitude orientation of spin-stabilized space vehicles Patent  
[NASA-CASE-XLA-00281] c 21 N70-36943

Amplifier clamping circuit for horizon scanner Patent  
[NASA-CASE-XGS-01784] c 10 N71-20782

Horizon sensor with a plurality of fixedly positioned radiation compensated radiation sensitive detectors Patent  
[NASA-CASE-XNP-06957] c 14 N71-21088

Infrared horizon locator  
[NASA-CASE-LAR-10726-1] c 14 N73-20475

**HORIZONTAL SPACECRAFT LANDING**  
Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986

**HORIZONTAL TAIL SURFACES**  
Translating horizontal tail Patent  
[NASA-CASE-XLA-08801-1] c 02 N71-11043

**HORN ANTENNAS**  
Antenna beam-shaping apparatus Patent  
[NASA-CASE-XNP-00611] c 09 N70-35219

Parabolic reflector horn feed with spillover correction Patent  
[NASA-CASE-XNP-00540] c 09 N70-35382

Horn feed having overlapping apertures Patent  
[NASA-CASE-GSC-10452] c 07 N71-12396

Dual mode horn antenna Patent  
[NASA-CASE-XNP-01057] c 07 N71-15907

Multi-purpose antenna employing dish reflector with plural coaxial horn feeds  
[NASA-CASE-NPO-11264] c 07 N72-25174

Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c 32 N76-15330

Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365

Reflex feed system for dual frequency antenna with frequency cutoff means  
[NASA-CASE-NPO-14022-1] c 32 N78-31321

Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524

Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539

Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278

**HOSES**  
Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

**HOT CATHODES**  
Ion thruster cathode  
[NASA-CASE-XLE-07087] c 06 N69-39889

**HOT CORROSION**  
Castable hot corrosion resistant alloy  
[NASA-CASE-LEW-14134-2] c 26 N89-14303

**HOT PRESSING**  
Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729

Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491

**HOT WORKING**  
Method for forming plastic materials Patent  
[NASA-CASE-XMS-05516] c 15 N71-17803

**HOT-FILM ANEMOMETERS**  
Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759

Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355

**HOT-WIRE ANEMOMETERS**  
Metallic hot wire anemometer --- for high speed wind tunnel tests  
[NASA-CASE-ARC-10911-1] c 35 N77-20400

Method for making a hot wire anemometer and product thereof  
[NASA-CASE-ARC-10900-1] c 35 N77-24454

**HOT-WIRE FLOWMETERS**  
Hot wire liquid level detector for cryogenic fluids Patent  
[NASA-CASE-XLE-00454] c 23 N71-17802

Flow separation detector  
[NASA-CASE-ARC-11046-1] c 35 N78-14364

Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470

**HOUSINGS**  
Sealed cabinetry Patent  
[NASA-CASE-MSC-12168-1] c 09 N71-18600

Open type urine receptacle  
[NASA-CASE-MSC-12324-1] c 05 N72-22093

Universal environment package with sectional component housing  
[NASA-CASE-KSC-10031] c 15 N72-22486

Gas flow control device  
[NASA-CASE-NPO-11479] c 15 N73-13462

Cryogenic gyroscope housing --- with annular disks for gas spin-up  
[NASA-CASE-MFS-21136-1] c 35 N74-18323

Heat transfer device  
[NASA-CASE-NPO-11120-1] c 34 N74-18552

Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500

Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582

**HOVERING**  
Gravity stabilized flying vehicle Patent  
[NASA-CASE-MSC-12111-1] c 02 N71-11039

**HUBBLE SPACE TELESCOPE**  
System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865

Orbital maneuvering end effectors  
[NASA-CASE-MFS-28161-1] c 37 N87-18817

**HUBS**  
Self-locking mechanical center joint  
[NASA-CASE-LAR-12864-1] c 37 N85-30336

**HUGONIOT EQUATION OF STATE**  
Determining particle density using known material Hugoniot curves  
[NASA-CASE-LAR-11059-1] c 76 N75-12610

**HULLS (STRUCTURES)**  
Hydrofoil Patent  
[NASA-CASE-XLA-00229] c 12 N70-33305

**HUMAN BEINGS**  
Skeletal stressing method and apparatus Patent  
[NASA-CASE-ARC-10100-1] c 05 N71-24738

Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067

## HUMAN BODY

- Mass measuring system Patent  
[NASA-CASE-XMS-03371] c 05 N70-42000
- Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189
- Garments for controlling the temperature of the body Patent  
[NASA-CASE-XMS-10269] c 05 N71-24147
- Tilting table for ergometer and for other biomedical devices  
[NASA-CASE-MFS-21010-1] c 05 N73-30078
- Method and system for in vivo measurement of bone tissue using a two level energy source  
[NASA-CASE-MSC-14276-1] c 52 N77-14737
- Circumferential pressure probe  
[NASA-CASE-LAR-13775-1] c 35 N89-14408
- HUMAN FACTORS ENGINEERING**
- Shock absorbing support and restraint means Patent  
[NASA-CASE-XMS-01240] c 05 N70-35152
- Harness assembly Patent  
[NASA-CASE-MFS-14671] c 05 N71-12341
- Multiple circuit switch apparatus with improved pivot actuator structure Patent  
[NASA-CASE-XAC-03777] c 10 N71-15909
- Three-axis finger tip controller for switches Patent  
[NASA-CASE-XAC-02405] c 09 N71-16089
- Extravehicular tunnel suit system Patent  
[NASA-CASE-MSC-12243-1] c 05 N71-24728
- EEG sleep analyzer and method of operation Patent  
[NASA-CASE-MSC-13282-1] c 05 N71-24729
- Spacesuit mobility joints  
[NASA-CASE-ARC-11058-1] c 54 N78-31735
- Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736
- Apparatus and method of inserting a microelectrode in body tissue or the like using vibration means  
[NASA-CASE-NPO-13910-1] c 52 N79-27836
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661
- Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740
- Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059
- Thermal garment  
[NASA-CASE-XMS-03694-1] c 54 N82-29002
- Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280
- Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618
- Shoulder and hip joint for hard space suits  
[NASA-CASE-ARC-11543-1] c 54 N86-28620
- Multi-adjustable headband --- for headsets  
[NASA-CASE-KSC-11322-1] c 54 N87-25765
- HUMAN PERFORMANCE**
- Color perception tester  
[NASA-CASE-KSC-10278] c 05 N72-16015
- HUMAN REACTIONS**
- Reaction tester  
[NASA-CASE-MSC-13604-1] c 05 N73-13114
- Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-2] c 52 N89-16256
- HUMAN WASTES**
- Reduced gravity fecal collector seat and urinal  
[NASA-CASE-MFS-22102-1] c 54 N74-20725
- Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804
- Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MSC-18223-1] c 24 N82-29362
- Absorbent product and articles made therefrom  
[NASA-CASE-MSC-18223-2] c 54 N84-11758
- HUMIDITY**
- Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559
- Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
[NASA-CASE-GSC-12191-1] c 31 N80-32583
- HUMIDITY MEASUREMENT**
- Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953
- HYBRID CIRCUITS**
- Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590
- Hybrid power semiconductor  
[NASA-CASE-LEW-13922-1] c 33 N86-20672
- Hermetically sealable package for hybrid solid-state electronic devices and the like  
[NASA-CASE-MSC-20181-1] c 33 N88-23941
- HYBRID COMPUTERS**
- Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c 62 N74-14920
- HYBRID PROPELLANTS**
- Solid propellant liner Patent  
[NASA-CASE-XNP-09744] c 27 N71-16392

## HYDRAULIC CONTROL

- Shear modulated fluid amplifier Patent  
[NASA-CASE-MFS-10412] c 12 N71-17578
- Multiple orifice throttle valve Patent  
[NASA-CASE-XNP-09698] c 15 N71-18580
- Fluidic-thermochromic display device Patent  
[NASA-CASE-ERC-10031] c 12 N71-18603
- Hydraulic transformer Patent  
[NASA-CASE-MFS-20830] c 15 N71-30028
- Hydraulic drain means for servo-systems  
[NASA-CASE-NPO-10316-1] c 37 N77-22479
- HYDRAULIC EQUIPMENT**
- Support apparatus for dynamic testing Patent  
[NASA-CASE-XMF-01772] c 11 N70-41677
- Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604
- Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658
- Anti-backlash circuit for hydraulic drive system Patent  
[NASA-CASE-XNP-01020] c 03 N71-12260
- Hydraulic grip Patent  
[NASA-CASE-XLA-05100] c 15 N71-17696
- Shock absorber Patent  
[NASA-CASE-XMS-03722] c 15 N71-21530
- Hydraulic casting of liquid polymers Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975
- Energy limiter for hydraulic actuators Patent  
[NASA-CASE-ARC-10131-1] c 15 N71-27754
- Mechanically limited, electrically operated hydraulic valve system for aircraft controls Patent  
[NASA-CASE-XAC-00048] c 02 N71-29128
- Hydraulic transformer Patent  
[NASA-CASE-MFS-20830] c 15 N71-30028
- Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c 03 N72-25021
- Geysering inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-KSC-10615] c 15 N73-12486
- Redundant hydraulic control system for actuators  
[NASA-CASE-MFS-20944] c 15 N73-13466
- Combined pressure regulator and shutoff valve  
[NASA-CASE-NPO-13201-1] c 37 N75-15050
- Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c 37 N75-25185
- Filter regeneration systems --- a system for regenerating a system filter in a fluid flow line  
[NASA-CASE-MSC-14273-1] c 34 N75-33342
- Quick disconnect filter coupling  
[NASA-CASE-MFS-22323-1] c 37 N76-14463
- Actuator device for artificial leg  
[NASA-CASE-MFS-23225-1] c 52 N77-14735
- Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432
- Underground mineral extraction  
[NASA-CASE-NPO-14140-1] c 43 N81-26509
- Gas-to-hydraulic power converter  
[NASA-CASE-MSC-18794-1] c 44 N83-14693
- Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085
- Personnel emergency carrier vehicle  
[NASA-CASE-KSC-11282-1] c 85 N87-21755
- Fatigue testing a plurality of test specimens and method  
[NASA-CASE-MFS-28118-1] c 39 N87-25601
- Control surface actuator  
[NASA-CASE-LAR-12852-1] c 05 N89-11738
- Passively activated prehensile digit for a robotic end effector  
[NASA-CASE-NPO-16766-1-CU] c 37 N89-13785
- HYDRAULIC FLUIDS**
- Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790
- HYDRAULIC JETS**
- Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N84-32398
- HYDRAZINE ENGINES**
- Reciprocating engines  
[NASA-CASE-MSC-16239-1] c 37 N81-32510
- HYDRAZINE NITROFORM**
- Hydrazinium nitroformate propellant with saturated polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c 27 N73-16764
- HYDRAZINES**
- Ignition means for monopropellant Patent  
[NASA-CASE-XNP-00876] c 28 N70-41311
- Solder flux which leaves corrosion-resistant coating Patent  
[NASA-CASE-XNP-03459-2] c 18 N71-15688
- Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions --- by adding potassium hydroxide to hydrazine  
[NASA-CASE-NPO-12122-1] c 24 N76-14203
- HYDRIDES**
- Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159

## HYDROCARBON COMBUSTION

- In-situ laser retorting of oil shale  
[NASA-CASE-LEW-12217-1] c 43 N78-14452
- HYDROCARBON FUEL PRODUCTION**
- Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261
- HYDROCARBON FUELS**
- Apparatus for making a metal slurry product Patent  
[NASA-CASE-XLE-00010] c 15 N70-33382
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c 44 N76-29704
- Dual-fuel, dual-mode rocket engine  
[NASA-CASE-LAR-13773-1] c 20 N88-24685
- HYDROCARBONS**
- Hydrazinium nitroformate propellant with saturated polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c 27 N73-16764
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-1] c 37 N76-16446
- Combustion engine --- for air pollution control  
[NASA-CASE-NPO-13671-1] c 37 N77-31497
- Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514
- Technique for measuring gas conversion factors  
[NASA-CASE-LAR-13220-1] c 34 N86-12547
- Method and device for determining heats of combustion of gaseous hydrocarbons  
[NASA-CASE-LAR-13528-1] c 25 N88-29002
- HYDROCHLORIC ACID**
- Indicator providing continuous indication of the presence of a specific pollutant in air  
[NASA-CASE-NPO-13474-1] c 45 N76-21742
- HYDROCHLORIDES**
- Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- HYDRODYNAMICS**
- Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490
- HYDROFOILS**
- Hydrofoil Patent  
[NASA-CASE-XLA-00229] c 12 N70-33305
- HYDROFORMING**
- Hydroforming techniques using epoxy molds Patent  
[NASA-CASE-XLE-05641-1] c 15 N71-26346
- HYDROGEN**
- Method for detecting hydrogen gas  
[NASA-CASE-XMF-03873] c 06 N69-39733
- Prevention of pressure build-up in electrochemical cells Patent  
[NASA-CASE-XGS-01419] c 03 N70-41864
- Pulse activated polarographic hydrogen detector Patent  
[NASA-CASE-XMF-06531] c 14 N71-17575
- Hydrogen leak detection device Patent  
[NASA-CASE-MFS-11537] c 14 N71-20442
- Analysis of hydrogen-deuterium mixtures  
[NASA-CASE-NPO-11322] c 06 N72-25146
- Hydrogen fire blink detector  
[NASA-CASE-MFS-15063] c 14 N72-25412
- Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium with palladium black  
[NASA-CASE-MSC-13335-1] c 06 N72-31140
- Atomic hydrogen maser with bulb temperature control to remove wall shift in maser output frequency  
[NASA-CASE-HQN-10654-1] c 16 N73-13489
- Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029
- Atomic standard with variable storage volume  
[NASA-CASE-GSC-11895-1] c 35 N76-15436
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-1] c 37 N76-16446
- Hydrogen-bromine secondary battery  
[NASA-CASE-NPO-13237-1] c 44 N76-18641
- Hydrogen-rich gas generator  
[NASA-CASE-NPO-13464-1] c 44 N76-18642
- Solar hydrogen generator  
[NASA-CASE-LAR-11361-1] c 44 N77-22607
- Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c 44 N77-32580
- Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MSC-16777-1] c 51 N80-27067
- Method of cross-linking polyvinyl alcohol and other water soluble resins  
[NASA-CASE-LEW-13103-1] c 27 N80-32516
- Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253

**HYDROGEN ATOMS**

- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-1] c 28 N78-24365
- Atomic hydrogen storage --- cryotrapping and magnetic field strength  
[NASA-CASE-LEW-12081-2] c 28 N80-20402
- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103

**HYDROGEN EMBRITTLEMENT**

- Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions --- by adding potassium hydroxide to hydrazine  
[NASA-CASE-NPO-12122-1] c 24 N76-14203

**HYDROGEN ENGINES**

- Hydrogen-fueled engine  
[NASA-CASE-NPO-13763-1] c 44 N78-33526

**HYDROGEN FUELS**

- Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c 44 N76-29704
- Hydrogen-rich gas generator  
[NASA-CASE-NPO-13560-1] c 44 N77-10636
- Dual-fuel, dual-mode rocket engine  
[NASA-CASE-LAR-13773-1] c 20 N88-24685

**HYDROGEN IONS**

- Hydrogen hollow cathode ion source  
[NASA-CASE-LEW-12940-1] c 72 N80-33186

**HYDROGEN OXYGEN FUEL CELLS**

- Electrolytically regenerative hydrogen-oxygen fuel cell Patent  
[NASA-CASE-XLE-04526] c 03 N71-11052
- Passively regulated water electrolysis rocket engine Patent  
[NASA-CASE-XGS-08729] c 28 N71-14044

**HYDROGEN PEROXIDE**

- Decomposition unit Patent  
[NASA-CASE-XMS-00583] c 28 N70-38504

**HYDROGEN PRODUCTION**

- Start up system for hydrogen generator used with an internal combustion engine  
[NASA-CASE-NPO-13849-1] c 28 N80-10374
- Thermochemical generation of hydrogen  
[NASA-CASE-NPO-15015-1] c 25 N82-28368
- Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744

**HYDROGENATION**

- Production of high purity silicon carbide Patent  
[NASA-CASE-XLA-00158] c 26 N70-36805
- Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c 35 N74-15127

**HYDROLOGY**

- Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498

**HYDROLYSIS**

- Hydrodesulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743

**HYDROSTATIC PRESSURE**

- Method and apparatus for simulating gravitational forces on a living organism  
[NASA-CASE-MSC-20202-1] c 54 N84-16803

**HYDROSTATICS**

- Hydrostatic bearing support  
[NASA-CASE-LEW-11158-1] c 37 N77-26486

**HYDROXIDES**

- Method for determining presence of OH in magnesium oxide  
[NASA-CASE-NPO-10774] c 06 N72-17095
- Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644
- Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977

**HYDROXYL COMPOUNDS**

- Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174

**HYGIENE**

- Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740

**HYGROMETERS**

- Polymeric electrolytic hygrometer  
[NASA-CASE-NPO-13948-1] c 35 N78-25391
- Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212

**HYGROSCOPICITY**

- Method of evaluating moisture barrier properties of encapsulating materials Patent  
[NASA-CASE-NPO-10051] c 18 N71-24934

**HYPERFINE STRUCTURE**

- Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142

**HYPERGOLIC ROCKET PROPELLANTS**

- Apparatus for igniting solid propellants Patent  
[NASA-CASE-XLE-00207] c 28 N70-33375
- Small rocket engine Patent  
[NASA-CASE-XLE-00685] c 28 N70-41992
- Method of igniting solid propellants Patent  
[NASA-CASE-XLE-01988] c 27 N71-15634

**HYPERSONIC AIRCRAFT**

- Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMF-02263] c 05 N74-10907

**HYPERSONIC FLIGHT**

- Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168

**HYPERSONIC FLOW**

- Hypersonic test facility Patent  
[NASA-CASE-XLA-05378] c 11 N71-21475

**HYPERSONIC SPEED**

- Reentry vehicle leading edge Patent  
[NASA-CASE-XLA-00165] c 31 N70-33242
- Landing arrangement for aerospace vehicle Patent  
[NASA-CASE-XLA-00805] c 31 N70-38010
- Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674
- High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088
- Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10578-1] c 12 N73-25262
- Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10612-1] c 12 N73-28144

**HYPERSONIC VEHICLES**

- Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015

**HYPERSONIC WIND TUNNELS**

- Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235
- Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
[NASA-CASE-LAR-13740-1] c 35 N88-30105

**HYPERTHERMIA**

- Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996

**HYPERVELOCITY GUNS**

- Dust particle injector for hypervelocity accelerators Patent  
[NASA-CASE-XGS-06628] c 24 N71-16213
- Hypervelocity gun Patent  
[NASA-CASE-XAC-05902] c 11 N71-18578
- Collapsible pistons  
[NASA-CASE-MSC-13789-1] c 11 N73-32152
- Hypervelocity gun --- using both electric and chemical energy for projectile propulsion  
[NASA-CASE-XLE-03186-1] c 09 N79-21084

**HYPERVELOCITY IMPACT**

- Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c 91 N74-13130

**HYPERVELOCITY PROJECTILES**

- Impact measuring technique  
[NASA-CASE-LAR-10913] c 14 N72-16282
- Multiple image storing system for high speed projectile holography  
[NASA-CASE-MFS-20596] c 14 N72-17324

**HYPERVELOCITY WIND TUNNELS**

- Hypersonic test facility Patent  
[NASA-CASE-XLA-00378] c 11 N71-15925
- Hypersonic test facility Patent  
[NASA-CASE-XLA-05378] c 11 N71-21475

**HYSTERESIS**

- Belleville spring assembly with elastic guides  
[NASA-CASE-XNP-09452] c 15 N69-27504

**ICE**

- Ice detector  
[NASA-CASE-LAR-13776-1] c 35 N88-29149

**IDENTIFYING**

- Lighting discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779

**IGNITERS**

- Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c 28 N73-24784
- Remote fire stack igniter --- with solenoid-controlled valve  
[NASA-CASE-MFS-21675-1] c 25 N74-33378
- Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275

Plasma igniter for internal combustion engine

- [NASA-CASE-NPO-13828-1] c 37 N79-11405
- Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491
- Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MSC-25707-1] c 35 N85-29214

**IGNITION**

- Magnetically controlled plasma accelerator Patent  
[NASA-CASE-XLA-00327] c 25 N71-29184
- Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MSC-20622-1] c 25 N86-19413

**IGNITION LIMITS**

- High voltage pulse generator Patent  
[NASA-CASE-MSC-12178-1] c 09 N71-13518

**IGNITION SYSTEMS**

- Apparatus for igniting solid propellants Patent  
[NASA-CASE-XLE-00207] c 28 N70-33375
- Ignition system for monopropellant combustion devices Patent  
[NASA-CASE-XNP-00249] c 28 N70-38249
- Rocket motor system Patent  
[NASA-CASE-XLE-00323] c 28 N70-38505
- Ignition means for monopropellant Patent  
[NASA-CASE-XNP-00876] c 28 N70-41311
- Sustained arc ignition system  
[NASA-CASE-LEW-12444-1] c 33 N77-28385

**IGNITION TEMPERATURE**

- Autoignition test cell Patent  
[NASA-CASE-KSC-10198] c 11 N71-28629

**ILLUMINATORS**

- Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474
- Illumination system including a virtual light source Patent  
[NASA-CASE-HQN-10781] c 23 N71-30292

**IMAGE ANALYSIS**

- Real-time image difference detection using a polarization rotation spatial light modulator  
[NASA-CASE-NPO-17144-1-CU] c 74 N88-25305

**IMAGE CONTRAST**

- Video signal enhancement system with dynamic range compression and modulation index expansion Patent  
[NASA-CASE-NPO-10343] c 07 N71-27341
- Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932

**IMAGE CONVERTERS**

- Deep trap, laser activated image converting system  
[NASA-CASE-NPO-13131-1] c 36 N75-19652
- Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c 33 N76-27473
- Wedge immersed thermistor bolometers  
[NASA-CASE-XGS-01245-1] c 35 N79-33449
- Photocapacitive image converter  
[NASA-CASE-LAR-12513-1] c 44 N82-32841

**IMAGE CORRELATORS**

- Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131
- Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014
- Azimuth correlator for real-time synthetic aperture radar image processing  
[NASA-CASE-NPO-14019-1] c 32 N79-14268
- Servomechanism for Doppler shift compensation in optical correlator for synthetic aperture radar  
[NASA-CASE-NPO-14998-1] c 32 N83-18975
- Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348

**IMAGE DISSECTOR TUBES**

- Apparatus for calibrating an image dissector tube  
[NASA-CASE-MFS-22208-1] c 33 N75-26244
- Electronic optical transfer function analyzer  
[NASA-CASE-MFS-21672-1] c 74 N76-19935

**IMAGE ENHANCEMENT**

- Method and means for an improved electron beam scanning system Patent  
[NASA-CASE-ERC-10552] c 09 N71-12539
- Physical correction filter for improving the optical quality of an image  
[NASA-CASE-HQN-10542-1] c 74 N75-25706
- Method of obtaining intensified image from developed photographic films and plates  
[NASA-CASE-MFS-23461-1] c 35 N79-10389
- Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

**IMAGE FILTERS**

- Motion picture camera for optical pyrometry Patent  
[NASA-CASE-XLA-00062] c 14 N70-33254
- Compact spectroradiometer  
[NASA-CASE-HQN-10683] c 14 N71-34389
- Physical correction filter for improving the optical quality of an image  
[NASA-CASE-HQN-10542-1] c 74 N75-25706



## IMAGE INTENSIFIERS

- Magnifying image intensifier  
[NASA-CASE-GSC-12010-1] c 74 N78-18905  
Method of obtaining intensified image from developed photographic films and plates  
[NASA-CASE-MFS-23461-1] c 35 N79-10389

## IMAGE PROCESSING

- Azimuth correlator for real-time synthetic aperture radar image processing  
[NASA-CASE-NPO-14019-1] c 32 N79-14268  
Interleaving device  
[NASA-CASE-GSC-12111-2] c 33 N81-29342  
Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968  
Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768  
Programmable pipelined image processor  
[NASA-CASE-NPO-16461-1CU] c 60 N86-23283  
Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1-CU] c 32 N88-26541

## IMAGE RESOLUTION

- Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072

## IMAGE ROTATION

- Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13979

## IMAGE TUBES

- Image tube --- deriving electron beam replica of image  
[NASA-CASE-GSC-11602-1] c 33 N74-21850  
System for producing chroma signals  
[NASA-CASE-MSC-14683-1] c 74 N77-18893

## IMAGERY

- Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N88-23924  
Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1-CU] c 35 N88-24944

## IMAGES

- Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474  
Stereoscopic television system and apparatus  
[NASA-CASE-ARC-10160-1] c 23 N72-27728  
Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732

## IMAGING RADAR

- Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1-CU] c 32 N88-26541

## IMAGING TECHNIQUES

- Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868  
Method and apparatus for eliminating coherent noise in a coherent energy imaging system without destroying spatial coherence  
[NASA-CASE-GSC-11133-1] c 23 N72-11568  
Phototransistor imaging system  
[NASA-CASE-MFS-20809] c 23 N73-13660  
Multispectral imaging system  
[NASA-CASE-MSC-12404-1] c 23 N73-13661  
Multiple pass reimaging optical system  
[NASA-CASE-ARC-10194-1] c 23 N73-20741  
Ritchey-Chretien Telescope  
[NASA-CASE-GSC-11487-1] c 14 N73-30393  
Data storage, image tube type  
[NASA-CASE-MSC-14053-1] c 60 N74-12888  
Optical instruments  
[NASA-CASE-MSC-14096-1] c 74 N74-15095  
Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408  
Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932  
Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083  
Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288  
System and method for obtaining wide screen Schlieren photographs  
[NASA-CASE-NPO-14174-1] c 74 N79-20856  
Low intensity X-ray and gamma-ray imaging device --- fiber optics  
[NASA-CASE-GSC-12263-1] c 74 N79-20857  
Diffraction grating configuration for X-ray and ultraviolet focusing  
[NASA-CASE-GSC-12357-1] c 74 N80-21140  
Multispectral scanner optical system  
[NASA-CASE-MSC-18255-1] c 74 N80-33210  
System for forming a quadrified image comprising angularly related fields of view of a three dimensional object  
[NASA-CASE-NPO-14219-1] c 74 N81-17886

Time delay and integration detectors using charge transfer devices

- [NASA-CASE-GSC-12324-1] c 33 N81-33403  
Image readout device with electronically variable spatial resolution  
[NASA-CASE-LAR-12633-1] c 33 N82-24416  
Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659  
Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918  
High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898  
Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920  
Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768  
Optical system  
[NASA-CASE-NPO-15801-1] c 74 N85-23396  
Three-dimensional and tomographic imaging device for X-ray and gamma-ray emitting objects  
[NASA-CASE-GSC-12851-1] c 35 N85-30281  
Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327  
Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650  
Optical scanner  
[NASA-CASE-GSC-12897-1] c 74 N87-21679  
Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
[NASA-CASE-LAR-13740-1] c 35 N88-30105
- IMIDES**  
Imidazopyrrolone/imide copolymers Patent  
[NASA-CASE-XLA-08802] c 06 N71-11238  
Molding process for imidazopyrrolone polymers  
[NASA-CASE-LAR-10547-1] c 31 N74-13177  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854  
Polyphenylene ethers with imide linking groups  
[NASA-CASE-LAR-12980-1] c 27 N84-22749  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-2] c 27 N85-21347  
High performance mixed bisimide resins and composites based thereon  
[NASA-CASE-ARC-11538-1SB] c 24 N86-21590  
Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909  
Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112  
Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6- diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564  
Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692  
Fire and heat resistant laminating resin based on maleimido and citraconimido substituted 1-(diorganooxyphosphonyl-methyl)-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-2] c 27 N89-16042
- IMINES**  
Synthesis of polymeric schiff bases by schiff-base exchange reactions Patent  
[NASA-CASE-XMF-08651] c 06 N71-11236  
Direct synthesis of polymeric schiff bases from two amines and two aldehydes Patent  
[NASA-CASE-XMF-08655] c 06 N71-11239  
Synthesis of polymeric schiff bases by reaction of acetals and amine compounds Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243  
Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
[NASA-CASE-XMF-03074] c 06 N71-24740
- IMMOBILIZATION**  
Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159  
Absolute focus lock for microscopes  
[NASA-CASE-LAR-10184] c 14 N72-22445  
Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662  
Active hold-down for heat treating  
[NASA-CASE-NPO-16892-1-CU] c 37 N87-14704
- IMPACT**  
Impact energy absorbing system utilizing fractureable material  
[NASA-CASE-NPO-10671] c 15 N72-20443  
Cosmic dust or other similar outer space particles impact location detector  
[NASA-CASE-GSC-11291-1] c 25 N72-33696

Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331

## IMPACT ACCELERATION

- Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146

## IMPACT DAMAGE

- Micrometeoroid penetration measuring device Patent  
[NASA-CASE-XLA-00941] c 14 N71-23240  
Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450

## IMPACT LOADS

- Force transducer Patent  
[NASA-CASE-XAC-01101] c 14 N70-41957  
Impact testing machine Patent  
[NASA-CASE-XNP-04817] c 14 N71-23225

## IMPACT RESISTANCE

- Electric storage battery  
[NASA-CASE-NPO-11021] c 03 N72-20032  
Hybrid composite laminate structures  
[NASA-CASE-LEW-12118-1] c 24 N77-27188

## IMPACT STRENGTH

- High impact pressure regulator Patent  
[NASA-CASE-NPO-10175] c 14 N71-18625

## IMPACT TESTING MACHINES

- Lunar penetrometer Patent  
[NASA-CASE-XLA-00934] c 14 N71-22765  
Impact testing machine Patent  
[NASA-CASE-XNP-04817] c 14 N71-23225  
Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807

## IMPACT TESTS

- Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807

## IMPACT TOLERANCES

- High impact antenna Patent  
[NASA-CASE-NPO-10231] c 07 N71-26101  
Vehicular impact absorption system  
[NASA-CASE-NPO-14014-1] c 37 N79-10420

## IMPEDANCE

- Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887  
Power supply conditioning circuit  
[NASA-CASE-NPO-17233-1-CU] c 33 N88-29095

## IMPEDANCE MATCHING

- Signal multiplexer  
[NASA-CASE-XGS-01110] c 07 N69-24334  
Reflectometer for receiver input impedance match measurement Patent  
[NASA-CASE-XNP-10843] c 07 N71-11267  
Radio frequency coaxial high pass filter Patent  
[NASA-CASE-XGS-01418] c 09 N71-23573  
Triaxial antenna Patent  
[NASA-CASE-XGS-02290] c 07 N71-28809

## IMPEDANCE MEASUREMENT

- High impedance measuring apparatus Patent  
[NASA-CASE-XMS-08589-1] c 09 N71-20569  
Apparatus for measuring semiconductor device resistance  
[NASA-CASE-NPO-14424-1] c 33 N80-32650

## IMPLANTATION

- Telemeter adaptable for implanting in an animal Patent  
[NASA-CASE-XAC-05706] c 05 N71-12342  
Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-KSC-11030-1] c 52 N77-25772  
Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744

## IMPLANTED ELECTRODES (BIOLOGY)

- Pocket ECG electrode  
[NASA-CASE-ARC-11258-1] c 52 N80-33081  
Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612  
Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-29863

## IMPLOSIONS

- Hypervelocity gun Patent  
[NASA-CASE-XAC-05902] c 11 N71-18578

## IMPREGNATING

- Composite lamination method  
[NASA-CASE-LAR-12019-1] c 24 N78-17150  
Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187  
High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908

## IMPULSE GENERATORS

- Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738

## IMPURITIES

- Method of making impurity-type semiconductor electrical contacts Patent  
[NASA-CASE-XMF-01016] c 26 N71-17818



Method of mitigating titanium impurities effects in p-type silicon material for solar cells  
[NASA-CASE-NPO-14635-1] c 44 N80-24741

Electromigration process for the purification of molten silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105

**IN-FLIGHT MONITORING**

System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300

**INCIDENCE**

Method of and means for testing a glancing-incidence mirror system of an X-ray telescope  
[NASA-CASE-MFS-22409-2] c 74 N78-15880

**INCIDENT RADIATION**

Solar cell assembly --- for use under high intensity illumination  
[NASA-CASE-LEW-11549-1] c 44 N77-19571

**INCLINATION**

Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029

**INCOHERENT SCATTERING**

Rapidly pulsed, high intensity, incoherent light source  
[NASA-CASE-XLE-2529-3] c 33 N74-20859

**INDICATING INSTRUMENTS**

Missile stage separation indicator and stage initiator Patent  
[NASA-CASE-XLA-00791] c 03 N70-39930

Inductive liquid level detection system Patent  
[NASA-CASE-XLE-01609] c 14 N71-10500

Apparatus for the determination of the existence or non-existence of a bonding between two members Patent  
[NASA-CASE-MFS-13686] c 15 N71-18132

Hydrogen fire detection system with logic circuit to analyze the spectrum of temporal variations of the optical spectrum  
[NASA-CASE-MFS-13130] c 10 N72-17173

Fatigue failure load indicator  
[NASA-CASE-LAR-12027-1] c 39 N79-22537

System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075

Film advance indicator  
[NASA-CASE-LAR-12474-1] c 35 N82-26628

Adjustable indicating device for load position  
[NASA-CASE-MFS-28008-1] c 35 N85-20300

Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756

**INDIUM ALLOYS**

Method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MFS-23405-1] c 26 N77-29260

Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527

Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N88-24753

**INDIUM COMPOUNDS**

Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826

**INDUCTANCE**

Current dependent filter inductance  
[NASA-CASE-ERC-10139] c 09 N72-17154

Inductance device with vacuum insulation  
[NASA-CASE-LEW-10330-1] c 09 N72-27226

Direct reading inductance meter  
[NASA-CASE-NPO-13792-1] c 35 N77-32455

**INDUCTION HEATING**

Induction furnace with perforated tungsten foil shielding Patent  
[NASA-CASE-XLE-04026] c 14 N71-23267

Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389

One-step dual purpose joining technique  
[NASA-CASE-LAR-12595-1] c 33 N82-26571

Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083

**INDUCTION MOTORS**

Induction motor control system with voltage controlled oscillator circuit  
[NASA-CASE-MFS-21465-1] c 10 N73-32145

Variable frequency inverter for ac induction motors with torque, speed and braking control  
[NASA-CASE-MFS-22088-1] c 33 N75-15874

Power factor control system for AC induction motors  
[NASA-CASE-MFS-23280-1] c 33 N78-10376

Three phase power factor controller  
[NASA-CASE-MFS-25535-1] c 33 N81-12330

Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395

Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360

Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569

Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319

Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190

Control system for an induction motor with energy recovery  
[NASA-CASE-MFS-25477-1] c 33 N84-14424

Three phase power factor controller  
[NASA-CASE-MFS-25535-2] c 33 N84-22885

Motor power control circuit for ac induction motors  
[NASA-CASE-MFS-25323-1] c 33 N84-22886

Coupling an induction motor type generator to ac power lines --- making windmill generators compatible with public power lines  
[NASA-CASE-MFS-25302-2] c 33 N84-33660

Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661

Solar powered actuator with continuously variable auxiliary power control  
[NASA-CASE-MFS-25637-1] c 44 N85-21769

Power control for ac motor  
[NASA-CASE-MFS-25861-1] c 33 N85-22877

**INDUCTORS**

Inductive liquid level detection system Patent  
[NASA-CASE-XLE-01609] c 14 N71-10500

Vacuum deposition apparatus Patent  
[NASA-CASE-XMF-01667] c 15 N71-17647

Constant frequency output two stage induction machine systems Patent  
[NASA-CASE-ERC-10065] c 09 N71-27364

Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393

**INDUSTRIAL PLANTS**

Process for making diamonds  
[NASA-CASE-MFS-20698-2] c 15 N73-19457

**INDUSTRIAL WASTES**

Process of forming catalytic surfaces for wet oxidation reactions  
[NASA-CASE-MSC-14831-1] c 25 N78-10225

Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747

**INERT ATMOSPHERE**

Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432

**INERTIA**

Bidirectional step torque filter with zero backlash characteristic Patent  
[NASA-CASE-XGS-04227] c 15 N71-21744

**INERTIAL CONFINEMENT FUSION**

Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
[NASA-CASE-NPO-14596-3] c 31 N83-31896

Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940

**INERTIAL GUIDANCE**

Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c 15 N71-26243

**INERTIAL NAVIGATION**

Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047

**INERTIAL PLATFORMS**

Clamping assembly for inertial components Patent  
[NASA-CASE-XMS-02184] c 15 N71-20813

Azimuth laying system Patent  
[NASA-CASE-XMF-01669] c 21 N71-23289

Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c 35 N74-15094

Attitude control system  
[NASA-CASE-MFS-22787-1] c 15 N77-10113

Rim inertial measuring system  
[NASA-CASE-LAR-12052-1] c 18 N81-29152

**INERTIAL REFERENCE SYSTEMS**

Attitude control system Patent  
[NASA-CASE-XGS-04393] c 21 N71-14159

Inertial reference apparatus Patent  
[NASA-CASE-XAC-03107] c 23 N71-16098

**INFLATABLE SPACECRAFT**

Thermal control of space vehicles Patent  
[NASA-CASE-XLA-01291] c 33 N70-36617

Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309

Rotating mandrel for assembly of inflatable devices Patent  
[NASA-CASE-XLA-04143] c 15 N71-17687

Method of making an inflatable panel Patent  
[NASA-CASE-XLA-03497] c 15 N71-23052

Orbital escape device Patent  
[NASA-CASE-XMS-06162] c 31 N71-28851

**INFLATABLE STRUCTURES**

Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981

Life raft Patent  
[NASA-CASE-XMS-00863] c 05 N70-34857

Life preserver Patent  
[NASA-CASE-XMS-00864] c 05 N70-36493

Inflatable honeycomb Patent  
[NASA-CASE-XLA-00204] c 32 N70-36536

Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063

Excessive temperature warning system Patent  
[NASA-CASE-XLA-01926] c 14 N71-15620

Inflation system for balloon type satellites Patent  
[NASA-CASE-XGS-03351] c 31 N71-16081

Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679

Self supporting space vehicle Patent  
[NASA-CASE-XLA-00117] c 31 N71-17680

Conforming polisher for aspheric surface of revolution Patent  
[NASA-CASE-XGS-02884] c 15 N71-22705

Method of making inflatable honeycomb Patent  
[NASA-CASE-XLA-03492] c 15 N71-22713

Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191

Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936

Inflatable transpiration cooled nozzle  
[NASA-CASE-MFS-20619] c 28 N72-11708

Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c 54 N74-14845

Emergency space-suit helmet  
[NASA-CASE-MSC-10954-1] c 54 N78-18761

Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433

Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718

Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443

**INFORMATION RETRIEVAL**

Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131

**INFRARED DETECTORS**

Temperature sensitive capacitor device  
[NASA-CASE-XNP-09750] c 14 N69-39937

Sight switch using an infrared source and sensor Patent  
[NASA-CASE-XMF-03934] c 09 N71-22985

Infrared detectors  
[NASA-CASE-LAR-10728-1] c 14 N73-12445

Doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c 33 N75-31332

Multispectral scanner optical system  
[NASA-CASE-MSC-18255-1] c 74 N80-33210

Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-19597

Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590

Integrated photo-responsive metal oxide semiconductor circuit  
[NASA-CASE-GSC-12782-1] c 33 N88-14271

**INFRARED INSTRUMENTS**

Infrared scanner Patent  
[NASA-CASE-XLA-00120] c 21 N70-33181

Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373

**INFRARED INTERFEROMETERS**

Over-under double-pass interferometer  
[NASA-CASE-NPO-13999-1] c 35 N78-18395

**INFRARED LASERS**

Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c 35 N74-11284

Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942

Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029

**INFRARED PHOTOMETRY**

Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836

**INFRARED RADIATION**

High-speed infrared furnace  
[NASA-CASE-XLE-10466] c 17 N69-25147

High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c 35 N74-18088

Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127

**INFRARED REFLECTION**  
Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186

**INFRARED SCANNERS**  
Infrared scanner Patent  
[NASA-CASE-XLA-00120] c 21 N70-33181  
Infrared horizon locator  
[NASA-CASE-LAR-10726-1] c 14 N73-20475

**INFRARED SPECTRA**  
Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426  
Gas particle radiator  
[NASA-CASE-LEW-14297-1] c 35 N89-12048

**INFRARED SPECTROMETERS**  
Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699  
Cooled echelle grating spectrometer --- for space telescope applications  
[NASA-CASE-NPO-14372-1] c 35 N80-26635

**INFRARED SPECTROSCOPY**  
Apparatus for providing a servo drive signal in a high-speed stepping interferometer  
[NASA-CASE-NPO-13569-2] c 35 N79-14348

**INFRARED TELESCOPES**  
Optical system with reflective baffles  
[NASA-CASE-ARC-11502-1] c 74 N86-20125

**INFRASONIC FREQUENCIES**  
Resonant infrasonic gauging apparatus  
[NASA-CASE-MSC-11847-1] c 14 N72-11363

**INHIBITORS**  
Inhibited solid propellant composition containing beryllium hydride  
[NASA-CASE-NPO-10866-1] c 28 N79-14228

**INITIATORS (EXPLOSIVES)**  
Missile stage separation indicator and stage initiator Patent  
[NASA-CASE-XLA-00791] c 03 N70-39930  
Safe-arm initiator Patent  
[NASA-CASE-LAR-10372] c 09 N71-18599  
Electroexplosive device  
[NASA-CASE-NPO-13858-1] c 28 N79-11231  
Four-terminal electrical testing device --- initiator bridgewire resistance  
[NASA-CASE-MSC-21166-1] c 35 N87-25555

**INJECTION**  
Thickness measuring and injection device Patent  
[NASA-CASE-MFS-20261] c 14 N71-27005  
High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523

**INJECTION LASERS**  
Arrangement for damping the resonance in a laser diode  
[NASA-CASE-NPO-15980-1] c 36 N85-30305

**INJECTORS**  
Rocket propellant injector Patent  
[NASA-CASE-XLE-00103] c 28 N70-33241  
Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c 28 N70-38199  
Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMF-00148] c 28 N70-38710  
Dust particle injector for hypervelocity accelerators Patent  
[NASA-CASE-XGS-06628] c 24 N71-16213  
Control valve and co-axial variable injector Patent  
[NASA-CASE-XNP-09702] c 15 N71-17654  
Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736  
Bipropellant injector  
[NASA-CASE-XNP-09461] c 28 N72-23809  
Coaxial injector for reaction motors  
[NASA-CASE-NPO-11095] c 15 N72-25455  
Injector for use in high voltage isolators for liquid feed lines  
[NASA-CASE-NPO-11377] c 15 N73-27406  
Rocket injector head  
[NASA-CASE-XMF-04592-1] c 20 N79-21125

**INKS**  
Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930

**INLET FLOW**  
High pressure four-way valve Patent  
[NASA-CASE-XNP-00214] c 15 N70-36908  
Gas turbine combustor Patent  
[NASA-CASE-LEW-10286-1] c 28 N71-28915  
Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c 02 N74-20646  
Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270

Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet  
[NASA-CASE-LEW-11915-1] c 35 N76-14431  
Method for fabricating a mass spectrometer inlet leak  
[NASA-CASE-GSC-12077-1] c 35 N77-24455  
Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089  
Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976

**INLET NOZZLES**  
Rocket injector head  
[NASA-CASE-XMF-04592-1] c 20 N79-21125

**INLET PRESSURE**  
Fluid jet amplifier  
[NASA-CASE-XLE-03512] c 12 N69-21466  
Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet  
[NASA-CASE-LEW-11915-1] c 35 N76-14431

**INOCULATION**  
Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c 51 N75-13502

**INORGANIC COATINGS**  
Diffuse reflective coating  
[NASA-CASE-GSC-11214-1] c 06 N73-13128  
Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233

**INORGANIC COMPOUNDS**  
Method of making membranes  
[NASA-CASE-XNP-04264] c 03 N69-21337  
Inorganic solid film lubricants Patent  
[NASA-CASE-XMF-03988] c 15 N71-21403  
Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739  
Inorganic thermal control coatings  
[NASA-CASE-MFS-20011] c 18 N72-22566  
Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530  
Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910

**INORGANIC PEROXIDES**  
Process for preparing higher oxides of the alkali and alkaline earth metals  
[NASA-CASE-ARC-10992-1] c 26 N78-32229  
Process for the preparation of calcium superoxide  
[NASA-CASE-ARC-11053-1] c 25 N79-10162

**INPUT**  
Remodulator filter Patent  
[NASA-CASE-NPO-10198] c 09 N71-24806  
Active RC networks  
[NASA-CASE-ARC-10020] c 10 N72-17172  
High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814

**INPUT/OUTPUT ROUTINES**  
Analog to digital converter  
[NASA-CASE-NPO-13385-1] c 33 N76-18345

**INSERTION**  
Apparatus and method of inserting a microelectrode in body tissue or the like using vibration means  
[NASA-CASE-NPO-13910-1] c 52 N79-27836

**INSERTION LOSS**  
Insertion loss measuring apparatus having transformer means connected across a pair of bolometers Patent  
[NASA-CASE-XNP-01193] c 10 N71-16057

**INSERTS**  
Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736

**INSPECTION**  
Automatic visual inspection system for microelectronics  
[NASA-CASE-NPO-13282] c 38 N78-17396  
Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330  
Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698  
Method of radiographic inspection of wooden members  
[NASA-CASE-LAR-13724-1] c 38 N88-23983

**INSTALLING**  
Device for installing rocket engines  
[NASA-CASE-MFS-19220-1] c 20 N76-22296  
Thermocouple installation  
[NASA-CASE-NPO-13540-1] c 35 N77-14409  
A method and technique for installing light-weight fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-18934-3] c 24 N82-26387  
Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443

**INSTRUMENT COMPENSATION**  
Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138

## INSTRUMENT ERRORS

Radiation direction detector including means for compensating for photocell aging Patent  
[NASA-CASE-XLA-00183] c 14 N70-40239

**INSTRUMENT FLIGHT RULES**  
Controlled visibility device for an aircraft Patent  
[NASA-CASE-XFR-04147] c 11 N71-10748

**INSTRUMENT ORIENTATION**  
Plurality of photosensitive cells on a pyramidal base for planetary trackers  
[NASA-CASE-XNP-04180] c 07 N69-39736  
Azimuth laying system Patent  
[NASA-CASE-XMF-01669] c 21 N71-23289  
Optical machine tool alignment indicator Patent  
[NASA-CASE-XAC-09489-1] c 15 N71-26673  
Solar energy powered heliotrope  
[NASA-CASE-GSC-10945-1] c 21 N72-31637

**INSTRUMENT PACKAGES**  
Apparatus for ejection of an instrument cover  
[NASA-CASE-XMF-04132] c 15 N69-27502  
Method and apparatus for shock protection Patent  
[NASA-CASE-XLA-00482] c 15 N70-36409  
Foam generator Patent  
[NASA-CASE-XLA-00838] c 03 N70-36778  
Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692  
Processing for producing a sterilized instrument Patent  
[NASA-CASE-XNP-09763] c 14 N71-20461  
Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523

**INSTRUMENTS**  
Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436  
Linear differential pressure sensor Patent  
[NASA-CASE-XMF-01974] c 14 N71-22752  
Precision thrust gage Patent  
[NASA-CASE-XGS-02319] c 14 N71-22965  
Self-calibrating displacement transducer Patent  
[NASA-CASE-XLA-00781] c 09 N71-22999  
Sensing probe  
[NASA-CASE-LEW-10281-1] c 14 N72-17327  
Scientific experiment flexible mount  
[NASA-CASE-MSC-12372-1] c 31 N72-25842  
Magnetic suspension and pointing system  
[NASA-CASE-LAR-11889-2] c 37 N78-27424  
Rotary leveling base platform  
[NASA-CASE-ARC-10981-1] c 37 N78-27425

**INSULATED STRUCTURES**  
Piping arrangement through a double chamber structure  
[NASA-CASE-XNP-08882] c 15 N69-39935

**INSULATION**  
Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193  
Foamed in place ceramic refractory insulating material Patent  
[NASA-CASE-XGS-02435] c 18 N71-22998  
Method of removing insulated material from insulated wires  
[NASA-CASE-FRC-10038] c 15 N72-20444  
Inductance device with vacuum insulation  
[NASA-CASE-LEW-10330-1] c 09 N72-27226  
Insulated electrocardiographic electrodes --- without paste electrolyte  
[NASA-CASE-MSC-14339-1] c 05 N75-24716  
Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c 27 N76-22376  
Two-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c 27 N76-22377  
Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c 27 N76-23426  
Field effect transistor and method of construction thereof  
[NASA-CASE-MFS-23312-1] c 33 N78-27326  
Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388  
Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807  
Cryogenic insulation system  
[NASA-CASE-LAR-13506-1] c 27 N89-12741

**INSULATORS**  
Electrostatic thruster with improved insulators Patent  
[NASA-CASE-XLE-01902] c 28 N71-10574  
High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302  
Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763

**INTAKE SYSTEMS**  
Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788  
The engine air intake system  
[NASA-CASE-ARC-10761-1] c 07 N77-18154

- Fluid sampling device  
[NASA-CASE-GSC-12143-1] c 35 N77-32456
- Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278
- Reciprocating engines  
[NASA-CASE-MSC-16239-1] c 37 N81-32510
- Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178
- Solid sorbent air sampler  
[NASA-CASE-MSC-20653-1] c 35 N86-26595

**INTEGRATED CIRCUITS**

- Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897
- Pulse rise time and amplitude detector Patent  
[NASA-CASE-XMF-08804] c 09 N71-24717
- Method and apparatus for swept-frequency impedance measurements of welds  
[NASA-CASE-ARC-10176-1] c 15 N72-21464
- Integrated circuit including field effect transistor and cermet resistor  
[NASA-CASE-GSC-10835-1] c 09 N72-33205
- Derivation of a tangent function using an integrated circuit four-quadrant multiplier  
[NASA-CASE-MSC-13907-1] c 10 N73-26230
- Coaxial inverted geometry transistor having buried emitter  
[NASA-CASE-ARC-10330-1] c 09 N73-32112
- Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-MFS-21374-1] c 33 N74-12951
- Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638
- Four phase logic systems --- including integrated microcircuits  
[NASA-CASE-MSC-14240-1] c 33 N75-14957
- Integrable power gyrator --- with Z-matrix design using parallel transistors  
[NASA-CASE-MFS-22342-1] c 33 N75-30428
- Cross correlation anomaly detection system  
[NASA-CASE-NPO-13283] c 38 N78-17395
- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321
- Method for analyzing radiation sensitivity of integrated circuits  
[NASA-CASE-NPO-14350-1] c 33 N80-14332
- Solar cell system having alternating current output  
[NASA-CASE-LEW-12806-2] c 44 N81-12542
- Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884
- Split-cross-bridge resistor for testing for proper fabrication of integrated circuits  
[NASA-CASE-NPO-16021-1] c 33 N85-30187
- Cross-contact chain  
[NASA-CASE-NPO-16784-1] c 33 N87-10231
- Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594
- Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160
- Integrated photo-responsive metal oxide semiconductor circuit  
[NASA-CASE-GSC-12782-1] c 33 N88-14271

**INTEGRATORS**

- Operational integrator Patent  
[NASA-CASE-NPO-10230] c 09 N71-12520
- Variable duration pulse integrator Patent  
[NASA-CASE-XLA-01219] c 10 N71-23084
- Variable width pulse integrator Patent  
[NASA-CASE-XLA-03356] c 10 N71-23315
- Feedback integrator with grounded capacitor Patent  
[NASA-CASE-XAC-10607] c 10 N71-23669
- High speed phase detector Patent  
[NASA-CASE-XNP-01306-2] c 09 N71-24596
- Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227

**INTERFACES**

- Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793
- Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-1] c 18 N88-28958
- Laser Doppler velocimeter multiplexer interface for simultaneous measured events  
[NASA-CASE-ARC-11536-1] c 33 N89-14384

**INTERFACIAL TENSION**

- Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278
- Sphere forming method and apparatus  
[NASA-CASE-NPO-15070-1] c 31 N83-35176
- Surface Tension Confined Liquid Cryogen Cooler (STCLCC)  
[NASA-CASE-GSC-13112-1] c 31 N88-29050

**INTERFEROMETERS**

- Apparatus for controlling the velocity of an electromechanical drive for interferometers and the like Patent  
[NASA-CASE-XGS-03532] c 14 N71-17627
- Incremental motion drive system Patent  
[NASA-CASE-XNP-08897] c 15 N71-17694
- Laser grating interferometer Patent  
[NASA-CASE-XLA-04295] c 16 N71-24170
- Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215
- Interferometer-polarimeter  
[NASA-CASE-NPO-11239] c 14 N73-12446
- Interferometric rotation sensor  
[NASA-CASE-ARC-10278-1] c 14 N73-25463
- High resolution Fourier interferometer-spectrophotopolarimeter  
[NASA-CASE-NPO-13604-1] c 35 N76-31490
- Apparatus for providing a servo drive signal in a high-speed stepping interferometer  
[NASA-CASE-NPO-13569-2] c 35 N79-14348
- Velocity servo for continuous scan Fourier interference spectrometer  
[NASA-CASE-NPO-14093-1] c 35 N80-20563
- Interferometer  
[NASA-CASE-NPO-14502-1] c 74 N81-17888
- Interferometer --- high resolution  
[NASA-CASE-NPO-14448-1] c 74 N81-29963
- Optical gyroscope system  
[NASA-CASE-NPO-14258-1] c 35 N81-33448
- Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949
- Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577
- Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304

**INTERFEROMETRY**

- Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391
- Interferometric locating system  
[NASA-CASE-NPO-14173-1] c 04 N80-32359
- Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282
- Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629

**INTERLAYERS**

- Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235

**INTERMEDIATE FREQUENCY AMPLIFIERS**

- Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c 32 N76-14321

**INTERMETALLICS**

- Twisted multilament superconductor  
[NASA-CASE-LEW-11726-1] c 26 N73-26752
- Synthesis of superconducting compounds by explosive compaction of powders  
[NASA-CASE-MFS-20861-1] c 18 N73-32437
- Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267
- Nickel base coating alloy  
[NASA-CASE-LEW-13834-1] c 26 N87-14482

**INTERNAL COMBUSTION ENGINES**

- Fuel injection pump for internal combustion engines Patent  
[NASA-CASE-MSC-12139-1] c 28 N71-14058
- Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c 28 N71-22983
- System for preconditioning a combustible vapor  
[NASA-CASE-NPO-12072] c 28 N72-22772
- System for minimizing internal combustion engine pollution emission  
[NASA-CASE-NPO-13402-1] c 37 N76-18457
- Combustion engine --- for air pollution control  
[NASA-CASE-NPO-13671-1] c 37 N77-31497
- Hydrogen-fueled engine  
[NASA-CASE-NPO-13763-1] c 44 N78-33526
- Plasma igniter for internal combustion engine  
[NASA-CASE-NPO-13828-1] c 37 N79-11405
- Indicated mean-effective pressure instrument  
[NASA-CASE-LEW-12661-1] c 35 N79-14345
- Start up system for hydrogen generator used with an internal combustion engine  
[NASA-CASE-NPO-13849-1] c 28 N80-10374
- Supercritical fuel injection system  
[NASA-CASE-LEW-12990-1] c 07 N81-29129
- Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483
- Real time pressure signal system for a rotary engine  
[NASA-CASE-LEW-13622-1] c 07 N84-22559

- Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981

**INTERPLANETARY SPACE**

- Heat shield Patent  
[NASA-CASE-XMS-00486] c 33 N70-33344
- RC networks and amplifiers employing the same  
[NASA-CASE-XAC-05462-2] c 10 N72-17171

**INTERPLANETARY SPACECRAFT**

- Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075

**INTERPLANETARY TRAJECTORIES**

- Means for visually indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394

**INTRACRANIAL PRESSURE**

- Induction powered biological radiosonde  
[NASA-CASE-ARC-11120-1] c 52 N80-18691

**INTRAOCULAR PRESSURE**

- Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12955-1] c 52 N80-14684
- Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12723-1] c 52 N80-18690

**INTRAVEHICULAR ACTIVITY**

- Space suit  
[NASA-CASE-MSC-12609-1] c 05 N73-32012

**INTRAVENOUS PROCEDURES**

- Bio-medical flow sensor --- intravenous procedures  
[NASA-CASE-MSC-18761-1] c 52 N83-27577

**INTRUSION**

- Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559

**INVENTIONS**

- Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583
- Ion-exchange hollow fibers  
[NASA-CASE-NPO-13309-1] c 25 N81-19244

**INVERTED CONVERTERS (DC TO AC)**

- Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c 35 N74-18090
- Variable frequency inverter for ac induction motors with torque, speed and braking control  
[NASA-CASE-MFS-22088-1] c 33 N75-15874
- Solar cell system having alternating current output  
[NASA-CASE-LEW-12806-2] c 44 N81-12542
- Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494

**INVERTERS**

- Transient-compensated SCR inverter  
[NASA-CASE-XLA-08507] c 09 N69-39984
- Inverter oscillator with voltage feedback  
[NASA-CASE-NPO-10760] c 09 N72-25254
- Overload protection system for power inverter  
[NASA-CASE-NPO-13872-1] c 33 N78-10377
- Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254
- Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220
- Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953
- Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227

**INVESTIGATION**

- Method for investigating the formation of crystals in a transparent material  
[NASA-CASE-MFS-26008-1-CU] c 76 N88-14835

**IODINE**

- Method of using photovoltaic cell using poly-N-vinylcarbazole complex Patent  
[NASA-CASE-NPO-10373] c 03 N71-18698
- Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027
- Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c 54 N78-14784

**IODINE COMPOUNDS**

- Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016

**IODINE ISOTOPES**

- Production of high purity I-123  
[NASA-CASE-LEW-10518-1] c 24 N72-33681
- Method of producing I-123 --- by bombardment of cesium causing spallation  
[NASA-CASE-LEW-11390-2] c 25 N76-27383
- Production of I-123  
[NASA-CASE-LEW-11390-3] c 25 N76-29379

**ION ACCELERATORS**

- Process for glass coating an ion accelerator grid Patent  
[NASA-CASE-LEW-10278-1] c 15 N71-28582

- Ion beam accelerator system  
[NASA-CASE-NPO-15547-1] c 72 N84-16959
- ION BEAMS**
- Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173
- Dispensing targets for ion beam particle generators  
[NASA-CASE-NPO-13112-1] c 73 N74-26767
- Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c 20 N74-31269
- Method of constructing dished ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276
- Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c 20 N77-10148
- Targets for producing high purity I-123  
[NASA-CASE-LEW-10518-3] c 25 N78-27226
- Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455
- Ion beam accelerator system  
[NASA-CASE-NPO-15547-1] c 72 N84-16959
- Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095
- Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565
- Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14050-1] c 31 N85-20153
- Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267
- Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875
- Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160
- Generation of intense negative ion beams  
[NASA-CASE-NPO-16061-1-CU] c 72 N87-21660
- Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179
- Trochoidal analysis of scattered electrons in a merged electron-ion beam  
[NASA-CASE-NPO-16789-1-CU] c 72 N88-25281
- ION CHARGE**
- Quadrupole mass filter with means to generate a noise spectrum exclusive of the resonant frequency of the desired ions to deflect stable ions  
[NASA-CASE-XNP-04231] c 14 N73-32325
- ION CONCENTRATION**
- Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c 27 N74-13270
- ION CURRENTS**
- System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20518
- ION CYCLOTRON RADIATION**
- Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c 35 N77-10492
- ION DENSITY (CONCENTRATION)**
- Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994
- ION ENGINES**
- Ion thruster cathode  
[NASA-CASE-XLE-07087] c 06 N69-39889
- High-vacuum condenser tank for ion rocket tests Patent  
[NASA-CASE-XLE-00168] c 11 N70-33278
- Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422
- Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245
- Rocket engine Patent  
[NASA-CASE-XLE-00342] c 28 N70-37980
- Thrust dynamometer Patent  
[NASA-CASE-XLE-00702] c 14 N70-40203
- Apparatus for increasing ion engine beam density Patent  
[NASA-CASE-XLE-00519] c 28 N70-41576
- Double optic system for ion engine Patent  
[NASA-CASE-XNP-02839] c 28 N70-41922
- Electrostatic ion engine having a permanent magnetic circuit Patent  
[NASA-CASE-XLE-01124] c 28 N71-14043
- Electrostatic ion rocket engine Patent  
[NASA-CASE-XLE-02066] c 28 N71-15661
- System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20518
- Construction and method of arranging a plurality of ion engines to form a cluster Patent  
[NASA-CASE-XNP-02923] c 28 N71-23081
- Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent  
[NASA-CASE-XLE-04501] c 09 N71-23190

- Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293
- Ion thruster accelerator system Patent  
[NASA-CASE-LEW-10106-1] c 28 N71-26642
- Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781
- High efficiency ionizer assembly Patent  
[NASA-CASE-XNP-01954] c 28 N71-28850
- Feed system for an ion thruster  
[NASA-CASE-NPO-10737] c 28 N72-11709
- Ion thruster with a combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c 28 N73-24783
- Single grid accelerator for an ion thruster  
[NASA-CASE-XLE-10453-2] c 28 N73-27699
- Method of making dished ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310
- Method of constructing dished ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276
- Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234
- ION EXCHANGE MEMBRANE ELECTROLYTES**
- Method of making membranes  
[NASA-CASE-XNP-04264] c 03 N69-21337
- Ion-exchange membrane with platinum electrode assembly Patent  
[NASA-CASE-XMS-02063] c 03 N71-29044
- Formulated plastic separators for soluble electrode cells --- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313
- Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187
- Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268
- Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- ION EXCHANGE RESINS**
- Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530
- Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687
- Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076
- ION EXCHANGING**
- Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076
- Ion-exchange hollow fibers  
[NASA-CASE-NPO-13309-1] c 25 N81-19244
- ION EXTRACTION**
- Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148
- Ion beam accelerator system  
[NASA-CASE-NPO-15547-1] c 72 N84-16959
- Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253
- ION IMPLANTATION**
- Method of making V-MOS field effect transistors utilizing a two-step anisotropic etching and ion implantation  
[NASA-CASE-GSC-12515-1] c 33 N81-26360
- ION IRRADIATION**
- Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437
- Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179
- ION MOTION**
- Ion mass spectrometer  
[NASA-CASE-NPO-15423-1] c 35 N84-28016
- ION PLATING**
- Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524
- Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695
- ION PROBES**
- Ion microprobe mass spectrometer for analyzing fluid materials Patent  
[NASA-CASE-ERC-10014] c 14 N71-28863
- ION PROPULSION**
- Variable thrust ion engine utilizing thermally decomposable solid fuel Patent  
[NASA-CASE-XMF-00923] c 28 N70-36802
- Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245

- Rocket engine Patent  
[NASA-CASE-XLE-00342] c 28 N70-37980
- Method of producing porous tungsten ionizers for ion rocket engines Patent  
[NASA-CASE-XLE-00455] c 28 N70-38197
- Double optic system for ion engine Patent  
[NASA-CASE-XNP-02839] c 28 N70-41922
- Electron bombardment ion engine Patent  
[NASA-CASE-XNP-04124] c 28 N71-21822
- Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173
- Ion thruster accelerator system Patent  
[NASA-CASE-LEW-10106-1] c 28 N71-26642
- Feed system for an ion thruster  
[NASA-CASE-NPO-10737] c 28 N72-11709
- Ion thruster  
[NASA-CASE-LEW-10770-1] c 28 N72-22770
- Ion thruster magnetic field control  
[NASA-CASE-LEW-10835-1] c 28 N72-22771
- Method of making dished ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310
- Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c 37 N76-14461
- Anode for ion thruster  
[NASA-CASE-LEW-12048-1] c 20 N77-20162
- Closed Loop solar array-ion thruster system with power control circuitry  
[NASA-CASE-LEW-12780-1] c 20 N79-20179
- A dc to dc converter  
[NASA-CASE-MFS-25430-1] c 33 N84-16453
- Ring-cusp ion thruster with shell anode  
[NASA-CASE-LEW-13881-1] c 20 N85-21256
- ION PUMPS**
- Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump  
[NASA-CASE-NPO-13663-1] c 35 N77-14406
- ION SOURCES**
- Focussing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618
- Multilayer porous ionizer Patent  
[NASA-CASE-XNP-04338] c 17 N71-23046
- Ion thruster accelerator system Patent  
[NASA-CASE-LEW-10106-1] c 28 N71-26642
- High efficiency ionizer assembly Patent  
[NASA-CASE-XNP-01954] c 28 N71-28850
- Apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c 14 N72-29464
- Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c 20 N74-31269
- Multitarget sequential sputtering apparatus  
[NASA-CASE-NPO-13345-1] c 37 N75-19684
- Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163
- Hydrogen hollow cathode ion source  
[NASA-CASE-LEW-12940-1] c 72 N80-33186
- ION TRAPS (INSTRUMENTATION)**
- Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994
- IONIC MOBILITY**
- Solid electrolyte cell  
[NASA-CASE-NPO-15269-1] c 44 N82-29710
- IONIZATION**
- Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253
- IONIZATION CHAMBERS**
- Baseline stabilization system for ionization detector Patent  
[NASA-CASE-XNP-03128] c 10 N70-41991
- Electron bombardment ion engine Patent  
[NASA-CASE-XNP-04124] c 28 N71-21822
- A multichannel photoionization chamber for absorption analysis Patent  
[NASA-CASE-ERC-10044-1] c 14 N71-27090
- Apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c 14 N72-29464
- IONIZATION CROSS SECTIONS**
- Trochoidal analysis of scattered electrons in a merged electron-ion beam  
[NASA-CASE-NPO-16789-1-CU] c 72 N88-25281
- IONIZATION GAGES**
- Ionization vacuum gauge Patent  
[NASA-CASE-XNP-00646] c 14 N70-35666
- Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent  
[NASA-CASE-XLE-00787] c 14 N71-21090
- Apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c 14 N72-29464
- Ultrahigh vacuum measuring ionization gauge  
[NASA-CASE-XLA-05087] c 14 N73-30391
- IONIZATION POTENTIALS**
- Field ionization electrodes Patent  
[NASA-CASE-ERC-10013] c 09 N71-26678

Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374

**IONIZED GASES**  
Probes having ring and primary sensor at same potential to prevent collection of stray wall currents in ionized gases  
[NASA-CASE-XLE-00690] c 25 N69-39884  
Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641  
Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148  
Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491

**IONIZERS**  
Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MS-10960-1] c 03 N71-24718  
Method of making dished ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310  
Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184

**IONIZING RADIATION**  
High-voltage cable Patent  
[NASA-CASE-XNP-00738] c 09 N70-38201  
Reinforced polyquinoxaline gasket and method of preparing the same --- resistant to ionizing radiation and liquid hydrogen temperatures  
[NASA-CASE-MFS-21364-1] c 37 N74-18126  
Process for crosslinking methylene-containing aromatic polymers with ionizing radiation  
[NASA-CASE-LAR-13448-1] c 27 N86-24840

**IONOSPHERIC DISTURBANCES**  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846

**IONOSPHERIC ELECTRON DENSITY**  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846

**IONOSPHERIC SOUNDING**  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
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**IONS**  
Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477

**IRIDIUM**  
Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346

**IRISES (MECHANICAL APERTURES)**  
Active microwave irises and windows  
[NASA-CASE-LAR-10513-1] c 07 N72-25170  
Thin film microwave iris  
[NASA-CASE-LAR-10511-1] c 09 N72-29172

**IRON**  
Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721

**IRON ALLOYS**  
Tantalum modified ferritic iron base alloys  
[NASA-CASE-LEW-12095-1] c 26 N78-18182  
Process for making a high toughness-high strength ion alloy  
[NASA-CASE-LEW-12542-2] c 26 N79-22271  
High toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-3] c 26 N80-32484  
Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233

**IRON CHLORIDES**  
Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205

**IRON COMPOUNDS**  
Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246

**IRRADIATION**  
Solar sensor having coarse and fine sensing with matched preirradiated cells and method of selecting cells Patent  
[NASA-CASE-XLA-01584] c 14 N71-23269  
Apparatus for obtaining isotropic irradiation of a specimen  
[NASA-CASE-MFS-20095] c 24 N72-11595  
Production of pure metals  
[NASA-CASE-LEW-10906-1] c 25 N74-30502  
Method for analyzing radiation sensitivity of integrated circuits  
[NASA-CASE-NPO-14350-1] c 33 N80-14332  
Ultra-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MS-16074-1] c 27 N80-26446

Method of measuring field funneling and range straggling in semiconductor charge-collecting junctions  
[NASA-CASE-NPO-16584-1-CU] c 76 N86-25269

**IRRIGATION**  
Solar-powered pump  
[NASA-CASE-NPO-13567-1] c 44 N76-29701

**ISOLATION**  
High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146

**ISOLATORS**  
Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781  
Positive isolation disconnect  
[NASA-CASE-MS-16043-1] c 37 N79-11402  
Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350  
Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1-CU] c 74 N88-25304

**ISOPROPYL ALCOHOL**  
Highly fluorinated polymers  
[NASA-CASE-MFS-11492] c 06 N73-30102

**ISOTHERMAL LAYERS**  
Isothermal cover with thermal reservoirs Patent  
[NASA-CASE-MFS-20355] c 33 N71-25353

**ISOTHERMAL PROCESSES**  
Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366

**ISOTOPE SEPARATION**  
Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477  
Isotope separation using tuned laser and electron beam  
[NASA-CASE-NPO-16907-1-CU] c 25 N88-24732

## J

**JET AIRCRAFT**  
Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788  
Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800

**JET AIRCRAFT NOISE**  
Jet aircraft configuration Patent  
[NASA-CASE-XLA-00087] c 02 N70-33332  
Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418  
Abating exhaust noises in jet engines  
[NASA-CASE-ARC-10712-1] c 07 N74-33218  
Instrumentation for measurement of aircraft noise and sonic boom  
[NASA-CASE-LAR-11173-1] c 35 N75-19614  
Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117  
Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884  
Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873

**JET AMPLIFIERS**  
Fluid jet amplifier  
[NASA-CASE-XLE-03512] c 12 N69-21466  
Fluid jet amplifier Patent  
[NASA-CASE-XLE-09341] c 12 N71-28741

**JET BLAST EFFECTS**  
Single action separation mechanism Patent  
[NASA-CASE-XLA-00188] c 15 N71-22874

**JET CONTROL**  
Attitude control for spacecraft Patent  
[NASA-CASE-XNP-00294] c 21 N70-36938

**JET ENGINES**  
Absorptive splitter for closely spaced supersonic engine air inlets Patent  
[NASA-CASE-XLA-02865] c 28 N71-15563  
Thrust dynamometer Patent  
[NASA-CASE-XLE-05260] c 14 N71-20429  
Nacelle afterbody for jet engines Patent  
[NASA-CASE-XLA-10450] c 28 N71-21493  
Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515  
Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270  
Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117  
The engine air intake system  
[NASA-CASE-ARC-10761-1] c 07 N77-18154  
Stator rotor tools  
[NASA-CASE-MS-16000-1] c 37 N78-24544  
Electrical servo actuator bracket --- fuel control valves on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483

Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749

**JET EXHAUST**  
Jet exhaust noise suppressor  
[NASA-CASE-LEW-11286-1] c 07 N74-27490  
Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089  
Reduction of nitric oxide emissions from a combustor  
[NASA-CASE-ARC-10814-2] c 07 N80-26298

**JET FLAPS**  
Jet aircraft configuration Patent  
[NASA-CASE-XLA-00087] c 02 N70-33332

**JET FLOW**  
Two phase flow system with discrete impinging two-phase jets  
[NASA-CASE-NPO-11556] c 12 N72-25292

**JET MIXING FLOW**  
Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c 28 N70-38199

**JET NOZZLES**  
Fluid jet amplifier  
[NASA-CASE-XLE-03512] c 12 N69-21466  
Thrust and direction control apparatus Patent  
[NASA-CASE-XLE-03583] c 31 N71-17629  
Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093

**JET PROPULSION**  
Two dimensional wedge/translating shroud nozzle  
[NASA-CASE-LAR-11919-1] c 07 N78-27121

**JET PUMPS**  
Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182

**JET THRUST**  
Control system for rocket vehicles Patent  
[NASA-CASE-XLA-01163] c 21 N71-15582  
Reactance control system Patent  
[NASA-CASE-XMF-01598] c 21 N71-15583  
Method and apparatus for rapid thrust increases in a turbofan engine  
[NASA-CASE-LEW-12971-1] c 07 N80-18039

**JETTISON SYSTEMS**  
Space capsule ejection assembly Patent  
[NASA-CASE-XMF-03169] c 31 N71-15675  
Method and system for ejecting fairing sections from a rocket vehicle  
[NASA-CASE-GSC-10590-1] c 31 N73-14853  
Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992

**JIGS**  
Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c 37 N76-21554  
Solar cell module assembly jig  
[NASA-CASE-XGS-00829-1] c 44 N79-19447

**JOINING**  
Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-3] c 07 N79-14096

**JOINTS (ANATOMY)**  
Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194  
Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195  
Omnidirectional joint Patent  
[NASA-CASE-XMS-09635] c 05 N71-24623  
Orthotic arm joint --- for use in mechanical arms  
[NASA-CASE-MFS-21611-1] c 54 N75-12616  
Rotational joint assembly for the prosthetic leg  
[NASA-CASE-KSC-11004-1] c 54 N77-30749  
Spacesuit mobility knee joints  
[NASA-CASE-ARC-11058-2] c 54 N79-24651

**JOINTS (JUNCTIONS)**  
Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c 09 N69-21542  
Elastic universal joint Patent  
[NASA-CASE-XNP-00416] c 15 N70-36947  
Portable alignment tool Patent  
[NASA-CASE-XMF-01452] c 15 N70-41371  
Pressure garment joint Patent  
[NASA-CASE-XMS-09636] c 05 N71-12344  
Technique of elbow bending small jacketed transfer lines Patent  
[NASA-CASE-XNP-10475] c 15 N71-24679  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148  
Frictionless universal joint Patent  
[NASA-CASE-NPO-10646] c 15 N71-28467  
Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937  
Universal restrainer and joint Patent  
[NASA-CASE-XNP-02278] c 15 N71-28951  
Diffusion welding in air --- solid state welding of butt joint by fusion welding, surface cleaning, and heating  
[NASA-CASE-LEW-11387-1] c 37 N74-18128

- Bonded joint and method --- for reducing peak shear stress in adhesive bonds  
[NASA-CASE-LAR-10900-1] c 37 N74-23064
- Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546
- Method of making an explosively welded scarf joint  
[NASA-CASE-LAR-11211-1] c 37 N75-12326
- Latching device  
[NASA-CASE-MFS-21606-1] c 37 N75-19685
- Method of determining bond quality of power transistors attached to substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MFS-21931-1] c 37 N75-26372
- Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c 37 N76-14460
- Wrist joint assembly  
[NASA-CASE-MFS-23311-1] c 54 N78-17676
- Spacesuit mobility joints  
[NASA-CASE-ARC-11058-1] c 54 N78-31735
- Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363
- Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673
- Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987
- Mechanical end joint system for structural column elements  
[NASA-CASE-LAR-12482-1] c 37 N82-32732
- Automatic weld torch guidance control system  
[NASA-CASE-MFS-25807] c 37 N83-20154
- Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944
- Self-locking mechanical center joint  
[NASA-CASE-LAR-12864-1] c 37 N85-30336
- Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605
- Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756
- Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630
- Elbow and knee joint for hard space suits  
[NASA-CASE-ARC-11610-1] c 54 N86-28619
- Shoulder and hip joint for hard space suits  
[NASA-CASE-ARC-11543-1] c 54 N86-28620
- Shoulder and hip joints for hard space suits and the like  
[NASA-CASE-ARC-11534-1] c 54 N86-29507
- Foldable self-erecting joint  
[NASA-CASE-MSC-20635-1] c 18 N87-14373
- Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713
- Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967
- JOSEPHSON JUNCTIONS**
- Doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c 33 N75-31332
- Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348
- Planar thin film SQUID with integral flux concentrator  
[NASA-CASE-MFS-28282-1] c 76 N88-29602
- JOULE-THOMSON EFFECT**
- Refrigeration apparatus  
[NASA-CASE-NPO-10309] c 15 N69-23190
- Cycling Joule Thomson refrigerator  
[NASA-CASE-NPO-15251-1] c 31 N83-31897
- Joule Thomson refrigerator  
[NASA-CASE-NPO-17143-1-CU] c 31 N89-14351
- JOURNAL BEARINGS**
- Slit regulated gas journal bearing Patent  
[NASA-CASE-XNP-00476] c 15 N70-38620
- Air bearing assembly for curved surfaces  
[NASA-CASE-MFS-20423] c 15 N72-11388
- Journal bearings --- for lubricant films  
[NASA-CASE-LEW-11076-1] c 37 N74-21061
- Journal Bearings  
[NASA-CASE-LEW-11076-2] c 37 N74-32921
- Lubricated journal bearing  
[NASA-CASE-LEW-11076-3] c 37 N75-30562
- Fluid journal bearings  
[NASA-CASE-LEW-11076-4] c 37 N76-15461
- Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606
- JUNCTION DIODES**
- Phototransistor  
[NASA-CASE-MFS-20407] c 09 N73-19235
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2] c 33 N75-25041
- Charge storage diode modulators and demodulators  
[NASA-CASE-NPO-10189-1] c 33 N77-21314
- Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590

- High band gap 2-6 and 3-5 tunneling junctions for silicon multijunction solar cells  
[NASA-CASE-NPO-16526-1CU] c 44 N87-17399
- JUNCTION TRANSISTORS**
- Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c 09 N69-24318
- Semiconductor transducer device  
[NASA-CASE-ERC-10087-2] c 14 N72-31446
- Method of determining bond quality of power transistors attached to substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MFS-21931-1] c 37 N75-26372
- Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879

## K

- KALMAN FILTERS**
- Systolic VLSI array for implementing the Kalman filter Algorithm  
[NASA-CASE-NPO-17108-1-CU] c 33 N87-27926
- KETONES**
- Polenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-1-CU] c 27 N87-22847
- Polenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-2-CU] c 23 N89-12667
- Low dielectric fluorinated poly(phenylene ether ketone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496
- KEYING**
- High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814
- Reconfigurable work station for a video display unit and keyboard  
[NASA-CASE-MFS-26009-1-SB] c 54 N88-24163
- KIDNEY DISEASES**
- Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c 27 N77-30236
- KIDNEYS**
- Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913
- KINETIC ENERGY**
- Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c 15 N70-34861
- Method and turbine for extracting kinetic energy from a stream of two-phase fluid  
[NASA-CASE-NPO-14130-1] c 34 N79-20335
- KINETIC FRICTION**
- Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995
- Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MSC-20622-1] c 25 N86-19413
- KINETICS**
- Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477
- KNEE (ANATOMY)**
- Elbow and knee joint for hard space suits  
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- KRAFT PROCESS (WOODPULP)**
- Process for purification of waste water produced by a Kraft process pulp and paper mill  
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[NASA-CASE-XMS-04670] c 54 N78-17678

Low temperature latching solenoid  
[NASA-CASE-MSC-18106-1] c 33 N82-11357

CAM controlled retractable door latch  
[NASA-CASE-MSC-20304-1] c 37 N82-31690

Mechanical end joint system for structural column elements  
[NASA-CASE-LAR-12482-1] c 37 N82-32732

Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991

Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791

Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333

Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582

Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

**LATERAL CONTROL**  
Three-axis controller Patent  
[NASA-CASE-XAC-01404] c 05 N70-41581

Roll attitude star sensor system Patent  
[NASA-CASE-XNP-01307] c 21 N70-41856

High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088

Vortex-lift roll-control device  
[NASA-CASE-LAR-11868-2] c 08 N79-14108

Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985

Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631

**LATERAL STABILITY**  
Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277

**LATEX**  
Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261

Process for preparation of large-particle-size monodisperse latexes  
[NASA-CASE-MFS-25000-1] c 25 N81-19242

**LATHES**  
Apparatus for machining geometric cones Patent  
[NASA-CASE-XMS-04292] c 15 N71-22722

Lathe tool bit and holder for machining fiberglass materials  
[NASA-CASE-XLA-10470] c 15 N72-21489

Universal precision sine bar attachment  
[NASA-CASE-MFS-28253-1] c 37 N88-24971

**LAUNCH ESCAPE SYSTEMS**  
Emergency escape system Patent  
[NASA-CASE-XKS-02342] c 05 N71-11199

Device for separating occupant from an ejection seat Patent  
[NASA-CASE-XMS-04625] c 05 N71-20718

**LAUNCH VEHICLE CONFIGURATIONS**  
Rotating launch device for a remotely piloted aircraft  
[NASA-CASE-ARC-10979-1] c 09 N77-19076

**LAUNCH VEHICLES**  
A support technique for vertically oriented launch vehicles  
[NASA-CASE-XLA-02704] c 11 N69-21540

Method and apparatus for detection and location of microleaks Patent  
[NASA-CASE-XMF-02307] c 14 N71-10779

Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787

Earth-to-orbit vehicle providing a reusable orbital stage and method of utilizing same  
[NASA-CASE-LAR-13486-1] c 16 N87-29582

**LAUNCHERS**  
Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609

Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469

**LAUNCHING PADS**  
Missile launch release system Patent  
[NASA-CASE-XMF-03198] c 30 N70-40353

Remote controlled tubular disconnect Patent  
[NASA-CASE-XLA-01396] c 03 N71-12259

Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292

**LAY-UP**  
Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235

**LAYERS**  
Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-1] c 28 N78-24365

**LEACHING**  
Process for the leaching of AP from propellant  
[NASA-CASE-NPO-14109-1] c 28 N80-23471

Infusion extractor  
[NASA-CASE-MSC-20761-1] c 37 N87-15465

**LEAD (METAL)**  
Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664

Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524

Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338

**LEAD SULFIDES**  
Integrated photo-responsive metal oxide semiconductor circuit  
[NASA-CASE-GSC-12782-1] c 33 N88-14271

**LEAD TELLURIDES**  
Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786

Segmenting lead telluride-silicon germanium thermoelements Patent  
[NASA-CASE-XGS-05718] c 26 N71-16037

**LEADING EDGE FLAPS**

Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985

**LEADING EDGES**

Reentry vehicle leading edge Patent  
[NASA-CASE-XLA-00165] c 31 N70-33242  
Leading edge curvature based on convective heating Patent  
[NASA-CASE-XLA-01486] c 01 N71-23497  
Leading edge protection for composite blades  
[NASA-CASE-LEW-12550-1] c 24 N77-19170  
Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793

**LEAKAGE**

Rocket chamber leak test fixture  
[NASA-CASE-XFR-09479] c 14 N69-27503  
Method and apparatus for detection and location of microleaks Patent  
[NASA-CASE-XMF-02307] c 14 N71-10779  
Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573  
Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161  
Method for leakage testing of tanks Patent  
[NASA-CASE-XMF-02392] c 32 N71-24285  
Leak detector wherein a probe is monitored with ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c 15 N71-24896  
Method for detecting leaks in hermetically sealed containers Patent  
[NASA-CASE-ERC-10045] c 15 N71-24910  
Method and apparatus for detecting gross leaks Patent  
[NASA-CASE-ERC-10033] c 14 N71-26672  
Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992  
Leak detector  
[NASA-CASE-MFS-21761-1] c 35 N75-15931  
Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612  
Low heat leak connector for cryogenic system  
[NASA-CASE-XLE-02367-1] c 31 N79-21225  
Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597  
Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631  
Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756  
Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736  
Self-compensating solenoid valve  
[NASA-CASE-ARC-11620-1] c 37 N87-25573

**LEG (ANATOMY)**

Actuator device for artificial leg  
[NASA-CASE-MFS-23225-1] c 52 N77-14735  
Rotational joint assembly for the prosthetic leg  
[NASA-CASE-KSC-11004-1] c 54 N77-30749  
Mechanical energy storage device for hip disarticulation  
[NASA-CASE-ARC-10916-1] c 52 N78-10686  
Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112

**LENSES**

High temperature lens construction Patent  
[NASA-CASE-XNP-04111] c 14 N71-15622  
Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474  
Petzval type objective including field shaping lens Patent  
[NASA-CASE-GSC-10700] c 23 N71-30027  
Method and apparatus for eliminating coherent noise in a coherent energy imaging system without destroying spatial coherence  
[NASA-CASE-GSC-11133-1] c 23 N72-11568  
Plural beam antenna  
[NASA-CASE-GSC-11013-1] c 09 N73-19234  
Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c 36 N77-32478  
Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854  
Chromatically corrected virtual image visual display --- reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185  
Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072  
Scanning afocal laser velocimeter projection lens system  
[NASA-CASE-LAR-12328-1] c 36 N82-32712  
Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577

Projection lens scanning laser velocimeter system  
[NASA-CASE-ARC-11547-1] c 36 N87-17026  
Dual mode laser velocimeter  
[NASA-CASE-ARC-11634-1] c 36 N88-14350

**LENTICULAR BODIES**

Space and atmospheric reentry vehicle Patent  
[NASA-CASE-XGS-00260] c 31 N70-37924

**LEVEL (HORIZONTAL)**

Hot wire liquid level detector for cryogenic fluids Patent  
[NASA-CASE-XLE-00454] c 23 N71-17802  
Rotary leveling base platform  
[NASA-CASE-ARC-10981-1] c 37 N78-27425

**LEVEL (QUANTITY)**

Spherical tank gauge Patent  
[NASA-CASE-XMS-06236] c 14 N71-21007  
Positive dc to positive dc converter Patent  
[NASA-CASE-XMF-14301] c 09 N71-23188

**LEVELING**

Adjustable attitude guide device Patent  
[NASA-CASE-XLA-07911] c 15 N71-15571  
Electrical switching device Patent  
[NASA-CASE-NPO-10037] c 09 N71-19610  
Adjustable support  
[NASA-CASE-NPO-10721] c 15 N72-27484  
Automatically operable self-leveling load table  
[NASA-CASE-MFS-22039-1] c 09 N75-12968

**LEVITATION**

Gas levitator having fixed levitation node for containerless processing  
[NASA-CASE-MFS-25509-1] c 35 N83-24828  
Closed loop electrostatic levitation system  
[NASA-CASE-NPO-15553-1] c 33 N85-29142

**LEVITATION MELTING**

High temperature acoustic levitator  
[NASA-CASE-NPO-16022-1] c 71 N85-22105  
Sample levitation and melt in microgravity  
[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489

**LIFE (DURABILITY)**

Hollow rolling element bearings  
[NASA-CASE-LEW-11087-3] c 37 N74-21064  
Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888  
Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913  
Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894

**LIFE DETECTORS**

Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487  
Lyophilized reaction mixtures Patent  
[NASA-CASE-XGS-05532] c 06 N71-17705

**LIFE RAFTS**

Life raft Patent  
[NASA-CASE-XMS-00863] c 05 N70-34857  
Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c 02 N73-26006  
Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c 54 N74-14845

**LIFE SUPPORT SYSTEMS**

Shock absorbing support and restraint means Patent  
[NASA-CASE-XMS-01240] c 05 N70-35152  
Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203  
Extravehicular tunnel suit system Patent  
[NASA-CASE-MSC-12243-1] c 05 N71-24728  
Foreshortened convolute section for a pressurized suit Patent  
[NASA-CASE-XMS-09637-1] c 05 N71-24730  
Orbital escape device Patent  
[NASA-CASE-XMS-06162] c 31 N71-28851  
Specialized halogen generator for purification of water Patent  
[NASA-CASE-XLA-08913] c 14 N71-28933  
Life support system  
[NASA-CASE-MSC-12411-1] c 05 N72-20096  
Air removal device  
[NASA-CASE-XLA-08914] c 15 N73-12492  
Space suit  
[NASA-CASE-MSC-12609-1] c 05 N73-32012  
Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c 25 N74-12813  
Helmet feedport  
[NASA-CASE-XMS-09653] c 54 N78-17680  
Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721  
Air removal device --- life support systems  
[NASA-CASE-XLA-08914-2] c 25 N82-21269

**LIFT DEVICES**

Device for handling heavy loads  
[NASA-CASE-XNP-04969] c 11 N69-27466

Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176  
Direct lift control system Patent  
[NASA-CASE-LAR-10249-1] c 02 N71-26110  
Ferry system  
[NASA-CASE-LAR-10574-1] c 11 N73-13257  
High lift aircraft --- with improved stability, control, performance, and noise characteristics  
[NASA-CASE-LAR-11252-1] c 05 N75-25914  
Device for installing rocket engines  
[NASA-CASE-MFS-19220-1] c 20 N76-22296  
Vortex-lift roll-control device  
[NASA-CASE-LAR-11868-2] c 08 N79-14108

**LIFT DRAG RATIO**

Ring wing tension vehicle Patent  
[NASA-CASE-XLA-04901] c 31 N71-24315  
Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277  
Slotted variable camber flap  
[NASA-CASE-LAR-12541-1] c 05 N84-22551  
Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828

**LIFTING BODIES**

Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176  
Lifting body Patent Application  
[NASA-CASE-FRC-10063] c 01 N71-12217  
Lift balancing device  
[NASA-CASE-LAR-10348-1] c 11 N73-12264

**LIFTING REENTRY VEHICLES**

Space and atmospheric reentry vehicle Patent  
[NASA-CASE-XGS-00260] c 31 N70-37924  
Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674  
Flight craft Patent  
[NASA-CASE-XAC-02058] c 02 N71-16087

**LIFTING ROTORS**

High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

**LIGANDS**

Carboranyl/methylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750

**LIGHT (VISIBLE RADIATION)**

Anti-glare improvement for optical imaging systems Patent  
[NASA-CASE-NPO-10337] c 14 N71-15604  
Maksutov spectrograph Patent  
[NASA-CASE-XLA-10402] c 14 N71-29041  
Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484  
Optical fiber tactile sensor  
[NASA-CASE-NPO-15375-1] c 74 N84-11921  
Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750

**LIGHT AIRCRAFT**

Direct lift control system Patent  
[NASA-CASE-LAR-10249-1] c 02 N71-26110

**LIGHT BEAMS**

Spectroscopic equipment using a slender cylindrical reflector as a substitute for a slit Patent  
[NASA-CASE-XGS-08269] c 23 N71-26206  
Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131  
Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13978  
Collimated beam manifold with the number of output beams variable at a given output angle  
[NASA-CASE-MFS-25312-1] c 74 N83-17305  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629  
Double window viewing chamber assembly  
[NASA-CASE-MFS-28057-1] c 09 N87-14355  
Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862

**LIGHT EMISSION**

Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119

**LIGHT EMITTING DIODES**

Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545  
Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733  
Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139  
Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960

## LIGHT GAS GUNS

## LIGHT GAS GUNS

Hypervelocity gun Patent  
[NASA-CASE-XAC-05902] c 11 N71-18578

## LIGHT MODULATION

Retrodirective modulator Patent  
[NASA-CASE-GSC-10062] c 14 N71-15605  
Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479  
Method and apparatus for optical modulating a light signal Patent  
[NASA-CASE-GSC-10216-1] c 23 N71-26722  
Lamp modulator  
[NASA-CASE-KSC-10565] c 09 N72-25250  
Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c 74 N76-30053  
Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510  
Fluorescent radiation converter  
[NASA-CASE-GSC-12528-1] c 74 N81-24900

## LIGHT SCATTERING

The 2 deg/90 deg laboratory scattering photometer ---  
particulate refractivity in hydrosols  
[NASA-CASE-GSC-12088-1] c 74 N78-13874  
A reference standard for bidirectional reflection  
distribution function and bidirectional transmission  
distribution function measurement  
[NASA-CASE-MFS-28183-1] c 74 N89-13253

## LIGHT SCATTERING METERS

System for the measurement of ultra-low stray light levels  
--- determining the adequacy of large space telescope  
systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865

## LIGHT SOURCES

Light radiation direction indicator with a baffle of two  
parallel grids  
[NASA-CASE-XNP-03930] c 14 N69-24331  
High intensity heat and light unit Patent  
[NASA-CASE-XLA-00141] c 09 N70-33312  
Photosensitive device to detect bearing deviation  
Patent  
[NASA-CASE-XNP-00438] c 21 N70-35089  
Light position locating system Patent  
[NASA-CASE-XNP-01059] c 23 N71-21821  
Optical systems having spatially invariant outputs  
[NASA-CASE-ERC-10248] c 14 N72-17323  
Ultrastable calibrated light source  
[NASA-CASE-MSC-12293-1] c 14 N72-27411  
Temperature compensated light source using a light  
emitting diode  
[NASA-CASE-ARC-10467-1] c 09 N73-14214  
Interferometric rotation sensor  
[NASA-CASE-ARC-10278-1] c 14 N73-25463  
Attitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089  
Very high intensity light source using a cathode ray tube  
--- electron beams  
[NASA-CASE-XNP-01296] c 33 N75-27250  
Electric arc light source having undercut recessed  
anode  
[NASA-CASE-ARC-10266-1] c 33 N75-29318  
Uniform variable light source  
[NASA-CASE-NPO-11429-1] c 74 N77-21941

## LIGHT TRANSMISSION

Hybrid holographic system using reflected and  
transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c 16 N71-15565  
Optical characteristics measuring apparatus Patent  
[NASA-CASE-XNP-08840] c 23 N71-16365  
Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175  
Solar cell panels with light transmitting plate  
[NASA-CASE-NPO-10747] c 03 N72-22042  
Optical frequency waveguide and transmission system  
[NASA-CASE-HQN-10541-3] c 23 N72-23695  
Light regulator  
[NASA-CASE-LAR-10836-1] c 26 N72-27784  
Transmitting and reflecting diffuser --- for ultraviolet  
light  
[NASA-CASE-LAR-10385-2] c 70 N74-13436  
Optical instrument employing reticle having preselected  
visual response pattern formed thereon  
[NASA-CASE-ARC-10976-1] c 74 N77-22950  
Transmitting and reflecting diffuser --- using ultraviolet  
grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879  
Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072  
Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750  
Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1-CU] c 74 N88-25304

## LIGHT VALVES

Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826

Wind dynamic range video camera  
[NASA-CASE-MFS-25750-1] c 32 N86-20647

## LIGHTING EQUIPMENT

Internal work light Patent  
[NASA-CASE-XKS-05932] c 09 N71-26787  
Pressurized lighting system  
[NASA-CASE-KSC-10644] c 09 N72-27227  
Remote lightning monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315

## LIGHTNING

Determining distance to lightning strokes from a single  
station  
[NASA-CASE-KSC-10698] c 07 N73-20175  
Lightning tracking system  
[NASA-CASE-KSC-10729-1] c 09 N73-32110  
Automatic lightning detection and photographic  
system  
[NASA-CASE-KSC-10728-1] c 14 N73-32319  
Lightning current measuring systems  
[NASA-CASE-KSC-10807-1] c 33 N75-26246  
Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337  
Lightning current detector  
[NASA-CASE-KSC-11057-1] c 33 N79-14305  
Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779  
Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083

## LIMBS (ANATOMY)

Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772  
Apparatus for determining changes in limb volume  
[NASA-CASE-MSC-18759-1] c 52 N83-27578

## LIMITER CIRCUITS

Variable duration pulse integrator Patent  
[NASA-CASE-XLA-01219] c 10 N71-23084  
Noise limiter Patent  
[NASA-CASE-NPO-10169] c 10 N71-24844  
Velocity limiting safety system Patent  
[NASA-CASE-XLA-07473] c 15 N71-24895  
Low level signal limiter  
[NASA-CASE-XLE-04791] c 32 N74-22096  
Inrush current limiter  
[NASA-CASE-GSC-11789-1] c 33 N77-14333

## LINE SPECTRA

Stark cell optoacoustic detection of constituent gases  
in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015  
Optical scanner  
[NASA-CASE-GSC-12897-1] c 74 N87-21679

## LINEAR ACCELERATORS

Linear accelerator frequency control system Patent  
[NASA-CASE-XGS-05441] c 10 N71-22962

## LINEAR ARRAYS

Multispectral imaging and analysis system --- using  
charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288  
Means for phase locking the outputs of a surface emitting  
laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960

## LINEAR CIRCUITS

Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

## LINEAR INTEGRATED CIRCUITS

Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590

## LINEAR POLARIZATION

Wind dynamic range video camera  
[NASA-CASE-MFS-25750-1] c 32 N86-20647

## LINEAR PROGRAMMING

Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

## LINEAR RECEIVERS

Antenna array at focal plane of reflector with coupling  
network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233

## LINEAR SYSTEMS

Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503  
A m-ary linear feedback shift register with binary logic  
[NASA-CASE-NPO-11868] c 10 N73-20254  
Linear magnetic bearings  
[NASA-CASE-GSC-12582-2] c 37 N85-20337

## LINEARITY

Semi-linear ball bearing Patent  
[NASA-CASE-XLA-02809] c 15 N71-22982  
Mechanical actuator Patent  
[NASA-CASE-XGS-04548] c 15 N71-24045  
Linear magnetic bearing  
[NASA-CASE-GSC-12517-1] c 37 N83-32067  
Linear motion valve  
[NASA-CASE-MSC-20148-1] c 37 N85-29284  
Instrumentation for sensing moisture content of material  
using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373

Linearized traveling wave amplifier with hard limiter  
characteristics  
[NASA-CASE-LEW-13981-2] c 33 N86-21742  
Reciprocating linear motor  
[NASA-CASE-GSC-12773-2] c 33 N87-23904  
Semi-2-interpenetrating networks of high temperature  
systems  
[NASA-CASE-LAR-13450-1] c 27 N87-28657

## LININGS

Fully plasma-sprayed compliant backed ceramic turbine  
seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453  
Steam cooled rich-burn combustor liner  
[NASA-CASE-LEW-13609-1] c 25 N83-17628  
Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577  
Multi-path peristaltic pump  
[NASA-CASE-MSC-20907-1] c 37 N87-18818  
Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672

## LINKAGES

Collapsible nozzle extension for rocket engines  
Patent  
[NASA-CASE-MFS-11497] c 28 N71-16224  
Adjustable force probe  
[NASA-CASE-MFS-20760] c 14 N72-33377  
Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382  
Compensating linkage for main rotor control  
[NASA-CASE-LAR-11797-1] c 05 N81-19087  
Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582  
Payload deployment method and system  
[NASA-CASE-MSC-21330-1] c 16 N88-24660  
Skin friction balance  
[NASA-CASE-LAR-13710-1] c 35 N88-29145

## LIQUEFACTION

Ophthalmic liquefaction pump  
[NASA-CASE-LEW-12051-1] c 52 N75-33640

## LIQUID ATOMIZATION

Constant-output atomizer --- Inhalation therapy and  
aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406

## LIQUID BEARINGS

High speed hybrid bearing comprising a fluid bearing  
and a rolling bearing convected in series  
[NASA-CASE-LEW-11152-1] c 15 N73-32359

## LIQUID CHROMATOGRAPHY

Spillage detector for liquid chromatography systems  
[NASA-CASE-MSC-20206-1] c 25 N86-27431

## LIQUID COOLING

Water cooled contactor for anode in carbon arc  
mechanism  
[NASA-CASE-XMS-03700] c 15 N69-24266  
External liquid-spray cooling of turbine blades Patent  
[NASA-CASE-XLE-00037] c 28 N70-33372  
Solenoid construction Patent  
[NASA-CASE-XNP-01951] c 09 N70-41929  
Laminar flow enhancement Patent  
[NASA-CASE-NPO-10122] c 12 N71-17631  
Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439  
Power system with heat pipe liquid coolant lines  
Patent  
[NASA-CASE-MFS-14114-2] c 09 N71-24807  
Power system with heat pipe liquid coolant lines  
Patent  
[NASA-CASE-MFS-14114] c 33 N71-27862  
Liquid spray cooling method Patent  
[NASA-CASE-XLE-00027] c 33 N71-29152  
Automatic control of liquid cooling garment by cutaneous  
and external auditory meatus temperatures  
[NASA-CASE-MSC-13917-1] c 05 N72-15098  
Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c 05 N73-26071  
Heat exchanger system and method  
[NASA-CASE-LAR-10799-2] c 34 N76-17317  
Liquid cooled brasserie and method of diagnosing  
malignant tumors therewith  
[NASA-CASE-ARC-11007-1] c 52 N77-14736  
Closed loop spray cooling apparatus --- for particle  
accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237  
Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MSC-25707-1] c 35 N85-29214

## LIQUID CRYSTALS

Angular velocity and acceleration measuring apparatus  
[NASA-CASE-ERC-10292] c 14 N72-25410  
Electricity measurement devices employing liquid  
crystalline materials  
[NASA-CASE-ERC-10275] c 26 N72-25680  
Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826  
Method for laminar boundary layer transition visualization  
in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551

**LIQUID FILLED SHELLS**

- Liquid rocket system Patent  
[NASA-CASE-XNP-00610] c 28 N70-36910
- Fluid sample collector Patent  
[NASA-CASE-XMS-06767-1] c 14 N71-20435
- Fluid containers and resealable septum therefor Patent  
[NASA-CASE-NPO-10123] c 15 N71-24835
- Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c 14 N71-30265

**LIQUID FLOW**

- Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988
- Liquid junction and method of fabricating the same Patent Application  
[NASA-CASE-NPO-10682] c 15 N70-34699
- Valve actuator Patent  
[NASA-CASE-XHQ-01208] c 15 N70-35409
- Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492
- Positive displacement flowmeter Patent  
[NASA-CASE-XMF-02822] c 14 N70-41994
- Liquid flow sight assembly Patent  
[NASA-CASE-XLE-02998] c 14 N70-42074
- Ablative system  
[NASA-CASE-LEW-10359-2] c 33 N73-25952
- Zero gravity liquid transfer screen  
[NASA-CASE-KSC-10626] c 14 N73-27378
- System for measuring Reynolds in a turbulently flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c 34 N76-27517
- Degassifying and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MSC-18936-1] c 35 N83-29652
- Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930

**LIQUID HELIUM**

- Heat operated cryogenic electrical generator  
[NASA-CASE-NPO-13303-1] c 20 N75-24837
- Helium refrigerator  
[NASA-CASE-NPO-13435-1] c 31 N76-14284
- Cryostat system for temperatures on the order of 2 deg K or less  
[NASA-CASE-NPO-13459-1] c 31 N77-10229
- Multistation refrigeration system  
[NASA-CASE-NPO-13839-1] c 31 N78-25256
- Stabilization of He<sub>2</sub>(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826
- Low cost cryostat  
[NASA-CASE-NPO-14513-1] c 35 N81-14287

**LIQUID HYDROGEN**

- Cryogenic thermal insulation Patent  
[NASA-CASE-XMF-05046] c 33 N71-28892
- Reinforced polyquinoxaline gasket and method of preparing the same --- resistant to ionizing radiation and liquid hydrogen temperatures  
[NASA-CASE-MFS-21364-1] c 37 N74-18126
- Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744
- Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159
- Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974

**LIQUID INJECTION**

- Thrust vector control apparatus Patent  
[NASA-CASE-XLE-00208] c 28 N70-34294
- Control system for rocket vehicles Patent  
[NASA-CASE-XLA-01163] c 21 N71-15582
- Injector assembly for liquid fueled rocket engines Patent  
[NASA-CASE-XMF-00968] c 28 N71-15660
- Sodium storage and injection system  
[NASA-CASE-NPO-14384-1] c 37 N80-10494
- Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
[NASA-CASE-NPO-14382-1] c 31 N80-18231
- Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433

**LIQUID LASERS**

- Method and apparatus for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c 16 N69-31343

**LIQUID LEVELS**

- Inductive liquid level detection system Patent  
[NASA-CASE-XLE-01609] c 14 N71-10500

**LIQUID METALS**

- Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983
- Two-fluid magnetohydrodynamic system and method for thermal-electric power conversion Patent  
[NASA-CASE-XNP-00644] c 03 N70-36803
- Analytical test apparatus and method for determining oxide content of alkali metal Patent  
[NASA-CASE-XLE-01997] c 06 N71-23527

- Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114] c 33 N71-27862
- Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747
- Shell side liquid metal boiler  
[NASA-CASE-NPO-10831] c 33 N72-20915
- Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c 06 N73-13129
- Electromagnetic flow rate meter --- for liquid metals  
[NASA-CASE-LEW-10981-1] c 35 N74-21018
- Process for preparing liquid metal electrical contact device  
[NASA-CASE-LEW-11978-1] c 33 N77-26385
- Solar driven liquid metal MHD power generator  
[NASA-CASE-LAR-12495-1] c 44 N83-28573
- Arc spray fabrication of metal matrix composite monolayer  
[NASA-CASE-LEW-13828-1] c 24 N85-30027

**LIQUID NITROGEN**

- Cryogenic feedthrough  
[NASA-CASE-LAR-10031] c 15 N72-22484

**LIQUID OXYGEN**

- Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170
- Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420
- Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223
- Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974

**LIQUID PHASES**

- Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635
- Hydraulic casting of liquid polymers Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975
- Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199
- Cryogenic liquid sensor  
[NASA-CASE-NPO-10619-1] c 35 N77-21393
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950

**LIQUID PROPELLANT ROCKET ENGINES**

- Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c 28 N70-33284
- Attitude and propellant flow control system and method Patent  
[NASA-CASE-XMF-00185] c 21 N70-34539
- Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMF-00148] c 28 N70-38710
- Zero gravity starting means for liquid propellant motors Patent  
[NASA-CASE-XNP-01390] c 28 N70-41275
- Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502
- Space vehicle  
[NASA-CASE-MFS-22734-1] c 18 N75-19329
- Fluid thrust control system --- for liquid propellant rocket engines  
[NASA-CASE-XMF-05964-1] c 20 N79-21124
- Rocket injector head  
[NASA-CASE-XMF-04592-1] c 20 N79-21125
- Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314

**LIQUID ROCKET PROPELLANTS**

- Rocket propellant injector Patent  
[NASA-CASE-XLE-00103] c 28 N70-33241
- Liquid rocket system Patent  
[NASA-CASE-XNP-00610] c 28 N70-36910
- Rocket motor system Patent  
[NASA-CASE-XLE-00323] c 28 N70-38505
- High temperature spark plug Patent  
[NASA-CASE-XLE-00660] c 28 N70-39925
- High pressure filter Patent  
[NASA-CASE-XNP-00732] c 28 N70-41447
- Liquid storage tank venting device for zero gravity environment Patent  
[NASA-CASE-XLE-01449] c 15 N70-41646
- Tank construction for space vehicles Patent  
[NASA-CASE-XMF-01899] c 31 N70-41948
- Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635
- Control valve and co-axial variable injector Patent  
[NASA-CASE-XNP-09702] c 15 N71-17654
- Slosh alleviator Patent  
[NASA-CASE-XLA-05749] c 15 N71-19569
- Filler valve Patent  
[NASA-CASE-XNP-01747] c 15 N71-23024
- Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339
- Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747

- Response analyzers for sensors Patent  
[NASA-CASE-MFS-11204] c 14 N71-29134
- Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278
- Supercharged topping rocket propellant feed system  
[NASA-CASE-XLE-02062-1] c 20 N80-14188
- Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420

**LIQUID SLOSHING**

- Slosh suppressing device and method Patent  
[NASA-CASE-XMF-00658] c 12 N70-38997
- Flexible ring slosh damping baffle Patent  
[NASA-CASE-LAR-10317-1] c 32 N71-16103
- Buoyant anti-slosh system Patent  
[NASA-CASE-XLA-04605] c 32 N71-16106
- Hot wire liquid level detector for cryogenic fluids Patent  
[NASA-CASE-XLE-00454] c 23 N71-17802
- Slosh alleviator Patent  
[NASA-CASE-XLA-05749] c 15 N71-19569
- Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387

**LIQUID SODIUM**

- Sodium storage and injection system  
[NASA-CASE-NPO-14384-1] c 37 N80-10494

**LIQUID-GAS MIXTURES**

- Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062
- Liquid-gas separator for zero gravity environment Patent  
[NASA-CASE-XMS-01492] c 05 N70-41297
- Liquid storage tank venting device for zero gravity environment Patent  
[NASA-CASE-XLE-01449] c 15 N70-41646
- Separator Patent  
[NASA-CASE-XLA-00415] c 15 N71-16079
- Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023
- Air removal device --- life support systems  
[NASA-CASE-XLA-08914-2] c 25 N82-21269

**LIQUID-SOLID INTERFACES**

- Apparatus and procedure to detect a liquid-solid interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713

**LIQUID-VAPOR INTERFACES**

- Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968
- Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294
- Response analyzers for sensors Patent  
[NASA-CASE-MFS-11204] c 14 N71-29134
- Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781

**LIQUIDS**

- Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062
- Electrical switching device Patent  
[NASA-CASE-NPO-10037] c 09 N71-19610
- Method and apparatus for distillation of liquids Patent  
[NASA-CASE-XNP-08124] c 15 N71-27184
- Apparatus for detecting the amount of material in a resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397
- Resonant infrasonic gauging apparatus  
[NASA-CASE-MSC-11847-1] c 14 N72-11363
- Ablative system  
[NASA-CASE-LEW-10359] c 33 N72-25911
- Liquid waste feed system  
[NASA-CASE-LAR-10365-1] c 05 N72-27102
- Zero gravity liquid mixer  
[NASA-CASE-LAR-10195-1] c 15 N73-19458
- Bi-metallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126
- Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c 35 N74-32879
- Automatic liquid inventory collecting and dispensing unit  
[NASA-CASE-LAR-11071-1] c 35 N75-19611
- Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667
- Low gravity phase separator  
[NASA-CASE-MSC-14773-1] c 35 N78-12390
- Automatic fluid dispenser  
[NASA-CASE-ARC-10920-1] c 35 N78-19466
- Liquid-immersible electrostatic ultrasonic transducer  
[NASA-CASE-LAR-12465-1] c 33 N82-26572
- System for monitoring physical characteristics of fluids  
[NASA-CASE-NPO-15400-1] c 34 N83-31993
- Liquid thickness gauge  
[NASA-CASE-LAR-13826-1] c 35 N88-29150
- Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843

## LITHIUM

- Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875  
Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856

## LITHIUM ALLOYS

- Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650  
Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N88-24753

## LITHIUM COMPOUNDS

- Novel polymers and method of preparing same  
[NASA-CASE-NPO-10998-1] c 06 N73-32029

## LOAD DISTRIBUTION (FORCES)

- Force measuring instrument Patent  
[NASA-CASE-XMF-00456] c 14 N70-34705  
Multiple Belleville spring assembly Patent  
[NASA-CASE-XNP-00840] c 15 N70-38225  
Device for use in loading tension members --- characterized by elongated elastic body  
[NASA-CASE-MFS-21488-1] c 14 N75-24794  
Pneumatic load compensating or controlling system  
[NASA-CASE-ARC-10907-1] c 37 N75-32465  
Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629

## LOAD TESTING MACHINES

- Load cell protection device Patent  
[NASA-CASE-XMS-06782] c 32 N71-15974  
Load relieving device Patent  
[NASA-CASE-XMS-06329-1] c 15 N71-20441  
Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c 35 N76-18400  
Fatigue failure load indicator  
[NASA-CASE-LAR-12027-1] c 39 N79-22537  
Portable 90 degree proof loading device  
[NASA-CASE-MS-20250-1] c 35 N86-19581  
Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841  
Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361  
Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967

## LOAD TESTS

- Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816  
Fatigue testing a plurality of test specimens and method  
[NASA-CASE-MFS-28118-1] c 39 N87-25601

## LOADING OPERATIONS

- Air bearing Patent  
[NASA-CASE-XMF-01887] c 15 N71-10617  
Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722

## LOADS (FORCES)

- Device for handling heavy loads  
[NASA-CASE-XNP-04969] c 11 N69-27466  
Two-plane balance Patent  
[NASA-CASE-XAC-00073] c 14 N70-34813  
Method of improving the reliability of a rolling element system Patent  
[NASA-CASE-XLE-02999] c 15 N71-16052  
Load relieving device Patent  
[NASA-CASE-XMS-06329-1] c 15 N71-20441  
Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191  
Transverse piezoresistance and pinch effect electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490  
Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531  
Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136  
Force-balanced, throttle valve Patent  
[NASA-CASE-NPO-10808] c 15 N71-27432  
Energy absorption device Patent  
[NASA-CASE-XNP-01848] c 15 N71-28959  
Air bearing  
[NASA-CASE-WLP-10002] c 15 N72-17451  
Device for measuring bearing preload  
[NASA-CASE-MFS-20434] c 11 N72-25288  
Variable direction force coupler  
[NASA-CASE-MFS-20317] c 15 N73-13463  
Ergometer  
[NASA-CASE-MFS-21109-1] c 05 N73-27941  
Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c 35 N74-13129  
Spring operated accelerator and constant force spring mechanism therefor  
[NASA-CASE-ARC-10898-1] c 35 N77-18417  
Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367  
Load regulating latch  
[NASA-CASE-MS-19535-1] c 37 N77-32499

- Adjustable indicating device for load position  
[NASA-CASE-MFS-28008-1] c 35 N85-20300  
Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947  
Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375  
Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332

## LOCAL AREA NETWORKS

- Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021

## LOCATES SYSTEM

- Lightning tracking system  
[NASA-CASE-KSC-10729-1] c 09 N73-32110  
Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MS-12593-1] c 17 N76-21250

## LOCKING

- Coupling device  
[NASA-CASE-XMS-07846-1] c 09 N69-21927  
Self-locking mechanical center joint  
[NASA-CASE-LAR-12864-1] c 37 N85-30336  
Variable length strut with longitudinal compliance and locking capability  
[NASA-CASE-MFS-25907-1] c 37 N85-34401  
Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789  
Elbow and knee joint for hard space suits  
[NASA-CASE-ARC-11610-1] c 54 N86-28619  
Locking hinge  
[NASA-CASE-MS-21056-1] c 18 N88-23827  
Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787

## LOCKS (FASTENERS)

- Locking device with rolling detents Patent  
[NASA-CASE-XMF-01371] c 15 N70-41829  
Bearing and gimbal lock mechanism and spiral flex lead module Patent  
[NASA-CASE-GSC-10556-1] c 31 N71-26537  
Locking device for turbine rotor blades Patent  
[NASA-CASE-XNP-00816] c 28 N71-28928  
Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935  
Safety-type locking pin  
[NASA-CASE-MFS-18495] c 15 N72-11385  
Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-1] c 54 N76-22914  
Portable appliance security apparatus  
[NASA-CASE-GSC-12399-1] c 33 N81-25299  
Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661  
High temperature penetrator assembly with bayonet plug and ramp-activated lock  
[NASA-CASE-MS-18526-1] c 37 N82-24494  
Aircraft canopy lock  
[NASA-CASE-FRC-11065-1] c 05 N83-19737  
Collet lock joint for space station truss  
[NASA-CASE-MS-21207-1] c 37 N88-29180  
Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787

## LOCOMOTION

- Jet shoes  
[NASA-CASE-XLA-08491] c 05 N69-21380  
Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746  
Restraint torso for a pressurized suit  
[NASA-CASE-MS-12397-1] c 05 N72-25119  
Kinesimetric method and apparatus  
[NASA-CASE-MS-18929-1] c 39 N83-20280

## LOGARITHMIC RECEIVERS

- Logarithmic circuit with wide dynamic range  
[NASA-CASE-GSC-12145-1] c 33 N78-32339

## LOGARITHMS

- Logarithmic function generator utilizing an exponentially varying signal in an inverse manner  
[NASA-CASE-ERC-10267] c 09 N72-23173

## LOGIC CIRCUITS

- A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148  
Relay binary circuit Patent  
[NASA-CASE-XMF-00421] c 09 N70-34502  
Binary to binary-coded-decimal converter Patent  
[NASA-CASE-XNP-00432] c 08 N70-35423  
Analog-to-digital conversion system Patent  
[NASA-CASE-XAC-00404] c 08 N70-40125  
Data processor having multiple sections activated at different times by selective power coupling to the sections Patent  
[NASA-CASE-XGS-04767] c 08 N71-12494  
Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505  
AC logic flip-flop circuits Patent  
[NASA-CASE-XGS-00823] c 10 N71-15910

- Logic AND gate for fluid circuits Patent  
[NASA-CASE-XLA-07391] c 12 N71-17579  
Ripple add and ripple subtract binary counters Patent  
[NASA-CASE-XGS-04766] c 08 N71-18602  
Exclusive-Or digital logic module Patent  
[NASA-CASE-XLA-07732] c 08 N71-18751  
Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772  
Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650  
BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890  
Current steering switch Patent  
[NASA-CASE-XNP-08567] c 09 N71-26000  
Parallel generation of the check bits of a PN sequence Patent  
[NASA-CASE-XNP-04623] c 10 N71-26103  
Adaptive system and method for signal generation Patent  
[NASA-CASE-GSC-11367] c 10 N71-26374  
Fast response low power drain logic circuits  
[NASA-CASE-GSC-10878-1] c 10 N72-22236  
Logical function generator  
[NASA-CASE-XLA-05099] c 09 N73-13209  
A synchronous binary array divider  
[NASA CASE ERC 10100-1] c 00 N74-20000  
Four phase logic systems --- including integrated microcircuits  
[NASA-CASE-MS-14240-1] c 33 N75-14957  
Interleaving device  
[NASA-CASE-GSC-12111-2] c 33 N81-29342  
Logic-controlled occlusive cuff system  
[NASA-CASE-MS-14836-1] c 52 N82-11770  
Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345  
Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953  
Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227  
Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304  
Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372  
Nanosequence digital logic controller  
[NASA-CASE-NPO-16116-2] c 60 N88-29310

## LONGERONS

- Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791  
Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352  
Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492

## LONGITUDINAL CONTROL

- Three-axis controller Patent  
[NASA-CASE-XAC-01404] c 05 N70-41581  
Pitch attitude stabilization system utilizing engine pressure ratio feedback signals  
[NASA-CASE-LAR-12562-1] c 08 N81-26152  
Remote pivot decoupler pylon: Wing/store flutter suppressor  
[NASA-CASE-LAR-13173-1] c 05 N87-14314  
Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631

## LONGITUDINAL STABILITY

- Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277

## LOOK ANGLES (ELECTRONICS)

- Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711

## LOOP ANTENNAS

- Collapsible loop antenna for space vehicle Patent  
[NASA-CASE-XMF-00437] c 07 N70-40202  
Automatic carrier acquisition system  
[NASA-CASE-NPO-11628-1] c 07 N73-30113

## LOOPS

- Endless tape cartridge Patent  
[NASA-CASE-XGS-00769] c 14 N70-41647  
Endless tape transport mechanism Patent  
[NASA-CASE-XGS-01223] c 07 N71-10609  
Filter for third order phase locked loops  
[NASA-CASE-NPO-11941-1] c 10 N73-27171  
High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c 70 N74-21300  
Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
[NASA-CASE-LAR-10168-1] c 33 N74-22865  
Closed loop spray cooling apparatus  
[NASA-CASE-LEW-11981-2] c 34 N79-20336  
Pseudonoise code tracking loop  
[NASA-CASE-MS-18035-1] c 32 N81-15179

Pulsed phase locked loop strain monitor --- voltage controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626

Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950

Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302

Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133

**LOUVERS**

Solar concentrator protective system  
[NASA-CASE-NPO-15662-1] c 44 N84-28204

**LOW ASPECT RATIO**

Landing arrangement for aerial vehicles Patent  
[NASA-CASE-XLA-00142] c 02 N70-33286

Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858

**LOW COST**

Fabrication of polycrystalline solar cells on low-cost substrates  
[NASA-CASE-GSC-12022-1] c 44 N76-28635

Process for utilizing low-cost graphite substrates for polycrystalline solar cells  
[NASA-CASE-GSC-12022-2] c 44 N78-24609

Large TV display system  
[NASA-CASE-NPO-16932-1CU] c 33 N87-15413

**LOW CURRENTS**

Low current linearization of magnetic amplifier for dc transducer  
[NASA-CASE-NPO-14617-1] c 33 N81-24338

**LOW DENSITY MATERIALS**

Method and device for detecting voids in low density material Patent  
[NASA-CASE-MFS-20044] c 14 N71-28993

Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c 27 N74-27037

Mixing insert for foam dispensing apparatus  
[NASA-CASE-MFS-20607-1] c 37 N76-19436

Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184

Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915

Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116

Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650

**LOW FREQUENCIES**

Seismic displacement transducer Patent  
[NASA-CASE-XMF-00479] c 14 N70-34794

Low-frequency radio navigation system  
[NASA-CASE-NPO-15264-1] c 04 N84-27713

**LOW GRAVITY MANUFACTURING**

Method for manufacturing mirrors in zero gravity environment  
[NASA-CASE-MSC-12611-1] c 12 N76-15189

Gas levitator having fixed levitation node for containerless processing  
[NASA-CASE-MFS-25509-1] c 35 N83-24828

Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650

Apparatus and method for quiescent containerless processing of high temperature metals and alloys in low gravity  
[NASA-CASE-MFS-28087-1] c 35 N87-23944

Sample levitation and melt in microgravity  
[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489

**LOW MOLECULAR WEIGHTS**

Process for preparation of high-molecular-weight polyaryloxysilanes Patent  
[NASA-CASE-XMF-08674] c 06 N71-28807

**LOW NOISE**

Low phase noise digital frequency divider  
[NASA-CASE-NPO-11569] c 10 N73-26229

Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c 36 N76-31512

Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887

Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1-CU] c 33 N88-26596

**LOW PASS FILTERS**

Filtering technique based on high-frequency plant modeling for high-gain control  
[NASA-CASE-LAR-12215-1] c 08 N79-23097

Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417

Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539

**LOW PRESSURE**

Gas low pressure low flow rate metering system Patent  
[NASA-CASE-FRC-10022] c 12 N71-26546

Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450

**LOW SPEED**

Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691-1] c 31 N71-15674

RC rate generator for slow speed measurement Patent  
[NASA-CASE-XMF-02966] c 10 N71-24863

**LOW TEMPERATURE**

Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103

Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894

**LOW TEMPERATURE ENVIRONMENTS**

Frangible electrochemical cell  
[NASA-CASE-XGS-10010] c 03 N72-15986

**LOW TEMPERATURE TESTS**

Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-XMF-02964] c 14 N71-17659

Horizontal cryostat for fatigue testing Patent  
[NASA-CASE-XMF-10968] c 14 N71-24234

Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221

**LOW THRUST**

Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314

**LOW VACUUM**

Vibration damping system Patent  
[NASA-CASE-XMS-01620] c 23 N71-15673

**LOW VOLTAGE**

High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c 09 N70-39915

Flexible blade antenna Patent  
[NASA-CASE-MSC-12101] c 09 N71-18720

Failure sensing and protection circuit for converter networks Patent  
[NASA-CASE-GSC-10114-1] c 10 N71-27366

**LOWER BODY NEGATIVE PRESSURE**

Method and apparatus for simulating gravitational forces on a living organism  
[NASA-CASE-MSC-20202-1] c 54 N84-16803

**LUBRICANTS**

Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-01765] c 18 N71-10772

Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-10337] c 15 N71-24046

Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098

Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c 37 N74-21058

Journal bearings --- for lubricant films  
[NASA-CASE-LEW-11076-1] c 37 N74-21061

Method for milling and drilling glass  
[NASA-CASE-GSC-12636-1] c 31 N83-27058

**LUBRICATING OILS**

Foil seal Patent  
[NASA-CASE-XLE-05130-2] c 15 N71-19570

**LUBRICATION**

Production of hollow components for rolling element bearings by diffusion welding  
[NASA-CASE-LEW-11026-1] c 15 N73-33383

Variable resistance constant tension and lubrication device --- using oil-saturated leather wiper  
[NASA-CASE-KSC-10723-1] c 37 N75-13265

**FLUID JOURNAL BEARINGS**

[NASA-CASE-LEW-11076-4] c 37 N76-15461

**LUBRICATION SYSTEMS**

Hybrid lubrication system and bearing Patent  
[NASA-CASE-XNP-01641] c 15 N71-22997

Fluid lubricant system Patent  
[NASA-CASE-XNP-03972] c 15 N71-23048

Journal Bearings  
[NASA-CASE-LEW-11076-2] c 37 N74-32921

Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12321-1] c 37 N78-10467

**LUGS**

Don/doff support stand for use with rear entry space suits  
[NASA-CASE-MSC-21364-1] c 54 N89-13889

**LUMINAIRES**

Visual target for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c 31 N69-27499

Ultraviolet resonance lamp Patent  
[NASA-CASE-ARC-10030] c 09 N71-12521

Lamp modulator  
[NASA-CASE-KSC-10565] c 09 N72-25250

Driving lamps by induction  
[NASA-CASE-MFS-21214-1] c 09 N73-30181

Uniform variable light source  
[NASA-CASE-NPO-11429-1] c 74 N77-21941

Direct current ballast circuit for metal halide lamp  
[NASA-CASE-MSC-18407-1] c 33 N82-24427

**LUMINANCE**

Television camera video level control system  
[NASA-CASE-MSC-18578-1] c 32 N85-21427

**LUMINOSITY**

Measurement of time differences between luminous events Patent  
[NASA-CASE-XLA-01987] c 23 N71-23976

**LUMINOUS INTENSITY**

Motion picture camera for optical pyrometry Patent  
[NASA-CASE-XLA-00062] c 14 N70-33254

Radiant energy intensity measurement system Patent  
[NASA-CASE-XNP-06510] c 14 N71-23797

Continuous plasma laser --- method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
[NASA-CASE-XNP-04167-3] c 36 N77-19416

Solar cell assembly --- for use under high intensity illumination  
[NASA-CASE-LEW-11549-1] c 44 N77-19571

Compact, high intensity arc lamp with internal magnetic field producing means  
[NASA-CASE-NPO-11510-1] c 33 N77-21315

System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865

Wind dynamic range video camera  
[NASA-CASE-MFS-25750-1] c 32 N86-20647

**LUMPING**

Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

**LUNAR BASES**

Self-adjusting multisegment, deployable, natural circulation radiator Patent  
[NASA-CASE-XHQ-03673] c 33 N71-29046

**LUNAR COMMUNICATION**

Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300

Emergency lunar communications system  
[NASA-CASE-MFS-21042] c 07 N72-25171

**LUNAR COMPOSITION**

Lunar penetrometer Patent  
[NASA-CASE-XLA-00934] c 14 N71-22765

**LUNAR EXPLORATION**

Backpack carrier Patent  
[NASA-CASE-LAR-10056] c 05 N71-12351

Lunar penetrometer Patent  
[NASA-CASE-XLA-00934] c 14 N71-22765

Personal propulsion unit Patent  
[NASA-CASE-MFS-20130] c 28 N71-27585

Emergency lunar communications system  
[NASA-CASE-MFS-21042] c 07 N72-25171

**LUNAR GRAVITATION**

Subgravity simulator Patent  
[NASA-CASE-XMS-04798] c 11 N71-21474

**LUNAR GRAVITY SIMULATOR**

Impact simulator Patent  
[NASA-CASE-XLA-00493] c 11 N70-34786

**LUNAR LANDING**

Lunar landing flight research vehicle Patent  
[NASA-CASE-XFR-00929] c 31 N70-34966

**LUNAR LOGISTICS**

Personal propulsion unit Patent  
[NASA-CASE-MFS-20130] c 28 N71-27585

**LUNAR ROCKS**

Sample collecting impact bit Patent  
[NASA-CASE-XNP-01412] c 15 N70-42034

**LUNAR SOIL**

Soil particles separator, collector and viewer Patent  
[NASA-CASE-XNP-09770] c 15 N71-20440

Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036

Self-recording portable soil penetrometer  
[NASA-CASE-MFS-20774] c 14 N73-19420

Method for obtaining oxygen from lunar or similar soil  
[NASA-CASE-MSC-12408-1] c 46 N74-13011

**LUNAR SURFACE VEHICLES**

Deformable vehicle wheel Patent  
[NASA-CASE-MFS-20400] c 31 N71-18611

Resilient wheel Patent  
[NASA-CASE-MFS-13929] c 15 N71-27091

**LUNGS**

Instrument for use in performing a controlled Valsalva maneuver Patent  
[NASA-CASE-XMS-01615] c 05 N70-41329



## M

## MACH NUMBER

Wind tunnel supplementary Mach number minimum section insert

[NASA-CASE-LAR-12532-1] c 09 N82-11088

## MACHINE TOOLS

Rock drill for recovering samples

[NASA-CASE-XNP-07478] c 14 N69-21923

Protective device for machine and metalworking tools Patent

[NASA-CASE-XLE-01092] c 15 N71-22797

Aligning and positioning device Patent

[NASA-CASE-XMS-04178] c 15 N71-22798

Extrusion die for refractory metals Patent

[NASA-CASE-XLE-06773] c 15 N71-23817

Layout tool Patent

[NASA-CASE-FRC-10005] c 15 N71-26145

Optical machine tool alignment indicator Patent

[NASA-CASE-XAC-09489-1] c 15 N71-26673

Caterpillar micro positioner

[NASA-CASE-GSC-10780-1] c 14 N72-16283

Geneva mechanism --- including star wheel and driver

[NASA-CASE-NPO-13281-1] c 37 N75-13266

Zero torque gear head wrench

[NASA-CASE-NPO-13059-1] c 37 N76-20480

Precision alignment apparatus for cutting a workpiece

[NASA-CASE-LAR-11658-1] c 37 N77-14478

Toggle mechanism for pinching metal tubes

[NASA-CASE-GSC-12274-1] c 37 N79-28550

Method and tool for machining a transverse slot about a bore

[NASA-CASE-LAR-11855-1] c 37 N81-14319

Crystal cleaving machine

[NASA-CASE-GSC-12584-1] c 37 N82-32730

Holding fixture for a hot stamping press

[NASA-CASE-GSC-12619-1] c 37 N84-12491

Alignment and assembly tool for very large diameter cylinders

[NASA-CASE-MFS-28001-2] c 37 N88-14360

## MACHINERY

Stirring apparatus for plural test tubes Patent

[NASA-CASE-XAC-06956] c 15 N71-21177

Precipitation detector Patent

[NASA-CASE-XLA-02619] c 10 N71-26334

Apparatus for forming drive belts

[NASA-CASE-NPO-13205-1] c 31 N74-32917

## MACHINING

Laser machining apparatus Patent

[NASA-CASE-HQN-10541-2] c 15 N71-27135

Lathe tool bit and holder for machining fiberglass materials

[NASA-CASE-XLA-10470] c 15 N72-21489

Drilled ball bearing with a one piece anti-tipping cage assembly

[NASA-CASE-LEW-11925-1] c 37 N75-31446

## MAGNESIUM

Nondestructive spot test method for magnesium and magnesium alloys

[NASA-CASE-LAR-10953-1] c 17 N73-27446

## MAGNESIUM ALLOYS

Method and apparatus for bonding a plastics sleeve onto a metallic body Patent

[NASA-CASE-XLA-01262] c 15 N71-21404

Nondestructive spot test method for magnesium and magnesium alloys

[NASA-CASE-LAR-10953-1] c 17 N73-27446

## MAGNESIUM OXIDES

Method for determining presence of OH in magnesium oxide

[NASA-CASE-NPO-10774] c 06 N72-17095

## MAGNET COILS

Superconducting alternator

[NASA-CASE-XLE-02824] c 03 N69-39890

Circuit breaker utilizing magnetic latching relays Patent

[NASA-CASE-MS-11277] c 09 N71-29008

## MAGNETIC AMPLIFIERS

Low current linearization of magnetic amplifier for dc transducer

[NASA-CASE-NPO-14617-1] c 33 N81-24338

## MAGNETIC BEARINGS

Linear magnetic bearing

[NASA-CASE-GSC-12517-1] c 37 N83-32067

Linear magnetic bearings

[NASA-CASE-GSC-12582-2] c 37 N85-20337

Radial and torsionally controlled magnetic bearing

[NASA-CASE-GSC-12957-1] c 37 N87-17038

## MAGNETIC CHARGE DENSITY

Electrostatic ion engine having a permanent magnetic circuit Patent

[NASA-CASE-XLE-01124] c 28 N71-14043

## MAGNETIC CIRCUITS

Electrostatic ion engine having a permanent magnetic circuit Patent

[NASA-CASE-XLE-01124] c 28 N71-14043

## MAGNETIC COILS

Time-division multiplexer Patent

[NASA-CASE-XNP-00431] c 09 N70-38998

Linear magnetic brake with two windings Patent

[NASA-CASE-XLE-05079] c 15 N71-17652

Safe-arm initiator Patent

[NASA-CASE-LAR-10372] c 09 N71-18599

Magnifying image intensifier

[NASA-CASE-GSC-12010-1] c 74 N78-18905

Radial and torsionally controlled magnetic bearing

[NASA-CASE-GSC-12957-1] c 37 N87-17038

## MAGNETIC CONTROL

Fast opening diaphragm Patent

[NASA-CASE-XLA-03660] c 15 N71-21060

Magnetically controlled plasma accelerator Patent

[NASA-CASE-XLA-00327] c 25 N71-29184

Axially and radially controllable magnetic bearing

[NASA-CASE-GSC-11551-1] c 37 N76-18459

Magnetic bearing system

[NASA-CASE-GSC-11978-1] c 37 N77-17464

Low temperature latching solenoid

[NASA-CASE-MS-18106-1] c 33 N82-11357

## MAGNETIC CORES

Variable frequency magnetic multivibrator Patent

[NASA-CASE-XGS-00458] c 09 N70-38604

Variable frequency magnetic multivibrator Patent

[NASA-CASE-XGS-00131] c 09 N70-38995

Magnetic counter Patent

[NASA-CASE-XNP-08836] c 09 N71-12515

Pulse-type magnetic core memory element circuit with blocking oscillator feedback Patent

[NASA-CASE-XGS-03303] c 08 N71-18595

Magnetic core current steering commutator Patent

[NASA-CASE-NPO-10201] c 08 N71-18694

Drive circuit utilizing two cores Patent

[NASA-CASE-XNP-01318] c 10 N71-23033

Saturation current protection apparatus for saturable core transformers Patent

[NASA-CASE-ERC-10075] c 09 N71-24800

Magnetic power switch Patent

[NASA-CASE-NPO-10242] c 09 N71-24803

Unsaturating saturable core transformer Patent

[NASA-CASE-ERC-10125] c 09 N71-24893

Thermally cycled magnetometer Patent

[NASA-CASE-XAC-03740] c 14 N71-26135

Digital memory sense amplifying means Patent

[NASA-CASE-XNP-01012] c 08 N71-28925

Method of detecting impending saturation of magnetic cores

[NASA-CASE-ERC-10089] c 23 N72-17747

Current steering commutator

[NASA-CASE-NPO-10743] c 08 N72-21199

Banded transformer cores

[NASA-CASE-NPO-11966-1] c 33 N74-17928

## MAGNETIC DIPOLES

Balance torque meter Patent

[NASA-CASE-XGS-01013] c 14 N71-23725

## MAGNETIC DISKS

Disk pack cleaning table Patent Application

[NASA-CASE-LAR-10590-1] c 15 N70-26819

## MAGNETIC FIELD CONFIGURATIONS

Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump

[NASA-CASE-NPO-13663-1] c 35 N77-14406

Magnifying image intensifier

[NASA-CASE-GSC-12010-1] c 74 N78-18905

## MAGNETIC FIELDS

Electric-arc heater Patent

[NASA-CASE-XLA-00330] c 33 N70-34540

Means for communicating through a layer of ionized gases Patent

[NASA-CASE-XLA-01127] c 07 N70-41372

Liquid storage tank venting device for zero gravity environment Patent

[NASA-CASE-XLE-01449] c 15 N70-41646

Electrostatic ion engine having a permanent magnetic circuit Patent

[NASA-CASE-XLE-01124] c 28 N71-14043

Wide range linear fluxgate magnetometer Patent

[NASA-CASE-XGS-01587] c 14 N71-15962

Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent

[NASA-CASE-XGS-07514] c 23 N71-16099

Nonmagnetic, explosive actuated indexing device Patent

[NASA-CASE-XGS-02422] c 15 N71-21529

Solar cell and circuit array and process for nullifying magnetic fields Patent

[NASA-CASE-XGS-03390] c 03 N71-23187

Balance torque meter Patent

[NASA-CASE-XGS-01013] c 14 N71-23725

Two axis fluxgate magnetometer Patent

[NASA-CASE-GSC-10441-1] c 14 N71-27325

Segmented superconducting magnet for a broadband traveling wave maser Patent

[NASA-CASE-XGS-10518] c 16 N71-28554

Magnetic position detection method and apparatus

[NASA-CASE-ARC-10179-1] c 21 N72-22619

Ion thruster

[NASA-CASE-LEW-10770-1] c 28 N72-22770

Ion thruster magnetic field control

[NASA-CASE-LEW-10835-1] c 28 N72-22771

Determining distance to lightning strokes from a single station

[NASA-CASE-KSC-10698] c 07 N73-20175

Superconductive magnetic-field-trapping device

[NASA-CASE-XNP-01185] c 26 N73-28710

Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube

[NASA-CASE-LEW-11617-1] c 33 N74-10195

Magnetometer using superconducting rotating body

[NASA-CASE-NPO-13388-1] c 35 N76-16390

Compact, high intensity arc lamp with internal magnetic field producing means

[NASA-CASE-NPO-11510-1] c 33 N77-21315

Magnetic heat pumping

[NASA-CASE-LEW-12508-1] c 34 N78-17335

Atomic hydrogen storage --- cryotrapping and magnetic field strength

[NASA-CASE-LEW-12081-2] c 28 N80-20402

Atomic hydrogen storage method and apparatus

[NASA-CASE-LEW-12081-3] c 28 N81-14103

Magnetic field control --- electromechanical torquing device

[NASA-CASE-MFS-23828-1] c 33 N82-26569

Magnetic heading reference

[NASA-CASE-LAR-12638-1] c 04 N84-14132

Magnetically actuated compressor

[NASA-CASE-GSC-12799-1] c 31 N85-21404

Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer

[NASA-CASE-NPO-16257-1] c 31 N85-29082

Maser cavity servo-tuning system

[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143

Magnetic drive coupling

[NASA-CASE-MS-21171-1] c 37 N88-23973

Magnetic attachment mechanism

[NASA-CASE-MS-21095-1] c 37 N89-12866

## MAGNETIC FILMS

Manganese bismuth films with narrow transfer characteristics for Curie-point switching

[NASA-CASE-NPO-11336-1] c 76 N79-16678

## MAGNETIC FLUX

Excitation and detection circuitry for a flux responsive magnetic head

[NASA-CASE-XNP-04183] c 09 N69-24329

Cryogenic apparatus for measuring the intensity of magnetic fields

[NASA-CASE-XAC-02407] c 14 N69-27423

Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon

[NASA-CASE-XGS-01881] c 09 N70-40123

Hybrid lubrication system and bearing Patent

[NASA-CASE-XNP-01641] c 15 N71-22997

Saturation current protection apparatus for saturable core transformers Patent

[NASA-CASE-ERC-10075] c 09 N71-24800

Continuous magnetic flux pump

[NASA-CASE-XNP-01187] c 15 N73-28516

Magnetic-flux pump

[NASA-CASE-XNP-01188] c 15 N73-32361

Magnetic bearing --- for supplying magnetic fluxes

[NASA-CASE-GSC-11079-1] c 37 N75-18574

Linear magnetic motor/generator --- to generate electric energy using magnetic flux for spacecraft power supply

[NASA-CASE-GSC-12518-1] c 33 N82-24421

Linear magnetic bearing

[NASA-CASE-GSC-12517-1] c 37 N83-32067

Induction heating gun

[NASA-CASE-LAR-13181-1] c 31 N85-29083

Radial and torsionally controlled magnetic bearing

[NASA-CASE-GSC-12957-1] c 37 N87-17038

## MAGNETIC FORMING

Magnetomotive metal working device Patent

[NASA-CASE-XMF-03793] c 15 N71-24833

Method and apparatus for precision sizing and joining of large diameter tubes Patent

[NASA-CASE-XMF-05114-3] c 15 N71-24865



- Constant frequency output two stage induction machine systems Patent  
[NASA-CASE-ERC-10065] c 09 N71-27364
- Magnetically actuated tuning method for Gunn oscillators  
[NASA-CASE-NPO-12106] c 09 N73-15235
- High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c 70 N74-21300
- Magnetic drive coupling  
[NASA-CASE-MSC-21171-1] c 37 N88-23973
- MAGNETIC LENSES**  
Quadrupole mass filter with means to generate a noise spectrum exclusive of the resonant frequency of the desired ions to deflect stable ions  
[NASA-CASE-XNP-04231] c 14 N73-32325
- MAGNETIC MATERIALS**  
Low viscosity magnetic fluid obtained by the colloidal suspension of magnetic particles Patent  
[NASA-CASE-XLE-01512] c 12 N70-40124
- Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120
- MAGNETIC MEASUREMENT**  
Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423
- Wide range linear fluxgate magnetometer Patent  
[NASA-CASE-XGS-01587] c 14 N71-15962
- RC networks and amplifiers employing the same  
[NASA-CASE-XAC-05462-2] c 10 N72-17171
- Magnetometer using superconducting rotating body  
[NASA-CASE-NPO-13388-1] c 35 N76-16390
- MAGNETIC PERMEABILITY**  
Linear motion valve  
[NASA-CASE-MSC-20148-1] c 37 N85-29284
- MAGNETIC POLES**  
Magnetohydrodynamic induction machine  
[NASA-CASE-XNP-07481] c 25 N69-21929
- Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump  
[NASA-CASE-NPO-13363-1] c 35 N77-14406
- MAGNETIC PUMPING**  
Continuous magnetic flux pump  
[NASA-CASE-XNP-01187] c 15 N73-28516
- Magnetic flux pump  
[NASA-CASE-XNP-01188] c 15 N73-32361
- Magnetocaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c 37 N74-27904
- Magnetic heat pumping  
[NASA-CASE-LEW-12508-3] c 34 N83-29625
- MAGNETIC RECORDING**  
Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710
- Magnetic recording head and method of making same Patent  
[NASA-CASE-GSC-10097-1] c 08 N71-27210
- Thermomagnetic recording and magnetic-optic playback system  
[NASA-CASE-NPO-10872-1] c 35 N79-16246
- Manganese bismuth films with narrow transfer characteristics for Curie-point switching  
[NASA-CASE-NPO-11336-1] c 76 N79-16678
- MAGNETIC SIGNALS**  
Plural recorder system  
[NASA-CASE-XMS-06949] c 09 N69-21467
- MAGNETIC STORAGE**  
Binary magnetic memory device Patent  
[NASA-CASE-XGS-00174] c 08 N70-34743
- Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504
- Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418
- Redundant memory organization Patent  
[NASA-CASE-GSC-10564] c 10 N71-29135
- Dual purpose momentum wheels for spacecraft with magnetic recording  
[NASA-CASE-NPO-11481] c 21 N73-13644
- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-1] c 28 N78-24365
- MAGNETIC SUSPENSION**  
Magnetic suspension and pointing system  
[NASA-CASE-LAR-11889-2] c 37 N78-27424
- Magnetic suspension and pointing system --- on a carrier vehicle  
[NASA-CASE-LAR-11889-1] c 35 N79-26372
- Magnetic bearing and motor  
[NASA-CASE-GSC-12726-1] c 37 N83-34323
- MAGNETIC SWITCHING**  
Magnetic power switch Patent  
[NASA-CASE-NPO-10242] c 09 N71-24803
- Current steering switch Patent  
[NASA-CASE-XNP-08567] c 09 N71-26000
- Magnetically switched power supply system for lasers  
[NASA-CASE-NPO-16402-2] c 33 N88-24862
- MAGNETIC TAPE TRANSPORTS**  
Reel safety brake  
[NASA-CASE-GSC-11960-1] c 37 N77-14479
- MAGNETIC TAPES**  
Endless tape cartridge Patent  
[NASA-CASE-XGS-00769] c 14 N70-41647
- Endless tape transport mechanism Patent  
[NASA-CASE-XGS-01223] c 07 N71-10609
- Low friction magnetic recording tape Patent  
[NASA-CASE-XGS-00373] c 23 N71-15978
- System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042
- Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995
- Technique for recovery of voice data from heat damaged magnetic tape  
[NASA-CASE-MSC-14219-1] c 32 N74-27612
- Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c 33 N76-18353
- Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372
- MAGNETIC TRANSDUCERS**  
Magnetometer with a miniature transducer and automatic scanning  
[NASA-CASE-LAR-11617-2] c 35 N78-32397
- MAGNETIZATION**  
Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293
- MAGNETO-OPTICS**  
Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c 36 N74-13205
- MAGNETOACOUSTIC WAVES**  
Method and apparatus for non-destructive testing of temper embrittlement in steels  
[NASA-CASE-LAR-13817-1] c 26 N88-29012
- MAGNETOHYDRODYNAMIC FLOW**  
Magneto-plasma-dynamic arc thruster  
[NASA-CASE-LEW-11180-1] c 25 N73-25760
- MAGNETOHYDRODYNAMIC GENERATORS**  
Magnetohydrodynamic induction machine  
[NASA-CASE-XNP-07481] c 25 N69-21929
- Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983
- Two-fluid magnetohydrodynamic system and method for thermal-electric power conversion Patent  
[NASA-CASE-XNP-00644] c 03 N70-36803
- Crossed-field MHD plasma generator/ accelerator Patent  
[NASA-CASE-XLA-03374] c 25 N71-15562
- Solar driven liquid metal MHD power generator  
[NASA-CASE-LAR-12495-1] c 44 N83-28573
- MAGNETOMETERS**  
Nonmagnetic thermal motor for a magnetometer  
[NASA-CASE-XAR-03786] c 09 N69-21313
- Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423
- Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon Patent  
[NASA-CASE-XGS-01881] c 09 N70-40123
- Wide range linear fluxgate magnetometer Patent  
[NASA-CASE-XGS-01587] c 14 N71-15962
- Optically pumped resonance magnetometer for determining vectoral components in a spatial coordinate system Patent  
[NASA-CASE-XGS-04879] c 14 N71-20428
- Thermally cycled magnetometer Patent  
[NASA-CASE-XAC-03740] c 14 N71-26135
- Two axis fluxgate magnetometer Patent  
[NASA-CASE-GSC-10441-1] c 14 N71-27325
- Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c 35 N75-13213
- Magnetometer using superconducting rotating body  
[NASA-CASE-NPO-13388-1] c 35 N76-16390
- Magnetic heading reference  
[NASA-CASE-LAR-11387-1] c 04 N76-20114
- Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056
- Magnetometer with a miniature transducer and automatic scanning  
[NASA-CASE-LAR-11617-2] c 35 N78-32397
- Low energy electron magnetometer using a monoenergetic electron beam  
[NASA-CASE-LAR-12706-1] c 35 N84-12444
- MAGNETRON SPUTTERING**  
Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543
- MAGNETRONS**  
Tuning arrangement for an electron discharge device or the like Patent  
[NASA-CASE-XNP-09771] c 09 N71-24841
- MAGNETS**  
Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-KSC-11030-1] c 52 N77-25772
- Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163
- Linear magnetic bearing  
[NASA-CASE-GSC-12517-1] c 37 N83-32067
- Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017
- Linear motion valve  
[NASA-CASE-MSC-20148-1] c 37 N85-29284
- MAGNIFICATION**  
Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474
- Magnifying scratch gage force transducer  
[NASA-CASE-LAR-10496-1] c 14 N72-22437
- Magnifying image intensifier  
[NASA-CASE-GSC-12010-1] c 74 N78-18905
- Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072
- Spectral slicing X-ray telescope with variable magnification  
[NASA-CASE-MFS-25942-1] c 74 N86-20124
- MAGNITUDE**  
Balance torquemeter Patent  
[NASA-CASE-XGS-01013] c 14 N71-23725
- MAINTENANCE**  
Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633
- Bonding or repairing process  
[NASA-CASE-MSC-12357] c 15 N73-12489
- Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c 24 N74-30001
- System and method for refurbishing and processing parachutes --- monorial conveyor system  
[NASA-CASE-KSC-11042-2] c 02 N81-26073
- Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839
- Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330
- Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520
- Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18736-1] c 24 N83-13172
- Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736
- MALEATES**  
Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043
- Maleimido substituted aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-1] c 23 N86-19376
- Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909
- MALFUNCTIONS**  
Airplane take-off performance indicator Patent  
[NASA-CASE-XLA-00100] c 14 N70-36807
- MANDRELS**  
Mandrel for shaping solid propellant rocket fuel into a motor casing Patent  
[NASA-CASE-XLA-00304] c 27 N70-34783
- Rotating mandrel for assembly of inflatable devices Patent  
[NASA-CASE-XLA-04143] c 15 N71-17687
- Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779
- MANEUVERABILITY**  
Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479
- MANGANESE**  
Manganese bismuth films with narrow transfer characteristics for Curie-point switching  
[NASA-CASE-NPO-11336-1] c 76 N79-16678
- MANIFOLDS**  
Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMF-00148] c 28 N70-38710
- Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366
- Collimated beam manifold with the number of output beams variable at a given output angle  
[NASA-CASE-MFS-25312-1] c 74 N83-17305

## MANIPULATORS

Remote control manipulator for zero gravity environment  
[NASA-CASE-MFS-14405] c 15 N72-28495  
Orthotic arm joint --- for use in mechanical arms  
[NASA-CASE-MFS-21611-1] c 54 N75-12616  
Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c 18 N75-27041  
Cooperative multi-axis sensor for teleoperation of article manipulating apparatus  
[NASA-CASE-NPO-13386-1] c 54 N75-27758  
Remotely operable articulated manipulator  
[NASA-CASE-MFS-22707-1] c 37 N76-15457  
Remote manipulator system  
[NASA-CASE-MFS-22022-1] c 37 N76-15460  
Anthropomorphic master/slave manipulator system  
[NASA-CASE-ARC-10756-1] c 54 N77-32721  
Wrist joint assembly  
[NASA-CASE-MFS-23311-1] c 54 N78-17676  
Compact artificial hand  
[NASA-CASE-NPO-13966-1] c 54 N79-24652  
Controller arm for a remotely related slave arm  
[NASA-CASE-ARC-11052-1] c 37 N79-28551  
Device for coupling a first vehicle to a second vehicle  
[NASA-CASE-GSC-12429-1] c 37 N81-14320  
Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718  
Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519  
Apparatus for sequentially transporting containers  
[NASA-CASE-MFS-23846-1] c 37 N82-32731  
Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286  
Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479  
Apparatus for adapting an end effector device remotely controlled manipulator arm  
[NASA-CASE-MFS-25949-1] c 37 N86-19603  
Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789  
Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352  
Orbital maneuvering end effectors  
[NASA-CASE-MFS-28161-1] c 37 N87-18817  
Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828  
Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MSC-20985-1] c 18 N88-26398  
Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621  
Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842  
Gripping device  
[NASA-CASE-MSC-21365-1] c 37 N89-12865  
Magnetic attachment mechanism  
[NASA-CASE-MSC-21095-1] c 37 N89-12866

**MANNED ORBITAL LABORATORIES**  
Erectable modular space station Patent  
[NASA-CASE-XLA-00678] c 31 N70-34296  
Radial module space station Patent  
[NASA-CASE-XMS-01906] c 31 N70-41373  
Rotating space station simulator Patent  
[NASA-CASE-XLA-03127] c 11 N71-10776

**MANNED SPACE FLIGHT**  
Transfer valve Patent  
[NASA-CASE-XAC-01158] c 15 N71-23051  
Air removal device  
[NASA-CASE-XLA-08914] c 15 N73-12492

**MANNED SPACECRAFT**  
Space capsule Patent  
[NASA-CASE-XLA-00149] c 31 N70-37938  
Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986  
Vehicle parachute and equipment jettison system Patent  
[NASA-CASE-XLA-00195] c 02 N70-38009  
Space capsule Patent  
[NASA-CASE-XLA-01332] c 31 N71-15664  
Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c 31 N71-21881  
Specialized halogen generator for purification of water Patent  
[NASA-CASE-XLA-08913] c 14 N71-28933  
Collapsible Apollo couch  
[NASA-CASE-MSC-13140] c 05 N72-11085  
Space vehicle with artificial gravity and earth-like environment  
[NASA-CASE-LEW-11101-1] c 31 N73-32750

Hatch cover  
[NASA-CASE-MSC-21356-1] c 18 N88-24671

**MANOMETERS**  
Magnetically centered liquid column float Patent  
[NASA-CASE-XAC-00030] c 14 N70-34820  
Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394

**MANUAL CONTROL**  
Multiple circuit switch apparatus with improved pivot actuator structure Patent  
[NASA-CASE-XAC-03777] c 10 N71-15909  
Null device for hand controller Patent  
[NASA-CASE-XLA-01808] c 15 N71-20740  
Manually actuated heat pump  
[NASA-CASE-NPO-10677] c 05 N72-11084  
Numerical computer peripheral interactive device with manual controls  
[NASA-CASE-NPO-11497] c 08 N73-25206  
Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c 08 N74-10942  
G-load measuring and indicator apparatus  
[NASA-CASE-ARC-10806-1] c 35 N75-29381  
Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205

**MANUFACTURING**  
A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148  
Indexed keyed connection Patent  
[NASA-CASE-XMS-02532] c 15 N70-41808  
Method of making screen by casting Patent  
[NASA-CASE-XLE-00953] c 15 N71-15966  
Space manufacturing machine Patent  
[NASA-CASE-MFS-20410] c 15 N71-19214  
Fluid containers and resealable septum therefor Patent  
[NASA-CASE-NPO-10123] c 15 N71-24835  
Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779  
Method of making shielded flat cable Patent  
[NASA-CASE-MFS-13687] c 09 N71-28691  
Fabrication of controlled-porosity metals Patent  
[NASA-CASE-XNP-04339] c 17 N71-29137  
Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692  
Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c 31 N74-32917  
Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260  
Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c 76 N76-25049  
Solar hydrogen generator  
[NASA-CASE-LAR-11361-1] c 44 N77-22607  
Method of forming shrink-fit compression seal  
[NASA-CASE-LAR-11563-1] c 37 N77-23482  
Method for making a hot wire anemometer and product thereof  
[NASA-CASE-ARC-10900-1] c 35 N77-24454  
Aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-3] c 44 N80-16452  
Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258  
Inorganic spark chamber frame and method of making the same  
[NASA-CASE-GSC-12354-1] c 35 N82-24471  
Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545  
Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589  
The 1-((diorganooxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605

**MAPPING**  
Random function tracer Patent  
[NASA-CASE-XLA-01401] c 15 N71-21179  
Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118  
Seismic vibration source  
[NASA-CASE-NPO-14112-1] c 46 N79-22679  
Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248  
Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711

## MAPS

Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015  
Optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c 43 N77-10584

## MASERS

Segmented superconducting magnet for a broadband traveling wave maser Patent  
[NASA-CASE-XGS-10518] c 16 N71-28554  
Maser for frequencies in the 7-20 GHz range  
[NASA-CASE-NPO-11437] c 16 N72-28521  
Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c 36 N76-31512  
Multistation refrigeration system  
[NASA-CASE-NPO-13839-1] c 31 N78-25256  
External bulb variable volume maser  
[NASA-CASE-GSC-12334-1] c 36 N79-14362  
Dielectric-loaded waveguide circulator for cryogenically cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372  
Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186  
Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350  
Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143

## MASKING

Masking device Patent  
[NASA-CASE-XNP-02092] c 15 N70-42033  
High resolution developing of photosensitive resists Patent  
[NASA-CASE-XGS-04993] c 14 N71-17574  
Low defect, high purity crystalline layers grown by selective deposition  
[NASA-CASE-NPO-15813-1] c 76 N85-30922

## MASKS

Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160

## MASS

Mass measuring system Patent  
[NASA-CASE-XMS-03371] c 05 N70-42000  
Dynamic vibration absorber Patent  
[NASA-CASE-LAR-10083-1] c 15 N71-27006  
Fluid mass sensor for a zero gravity environment  
[NASA-CASE-MSC-14653-1] c 35 N77-19385

## MASS BALANCE

Two-plane balance Patent  
[NASA-CASE-XAC-00073] c 14 N70-34813  
Apparatus for testing a pressure responsive instrument Patent  
[NASA-CASE-XMF-04134] c 14 N71-23755

## MASS DISTRIBUTION

Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339

## MASS FLOW

Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736  
Nuclear mass flowmeter  
[NASA-CASE-MFS-20485] c 14 N72-11365  
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10578-1] c 12 N73-25262

## MASS SPECTROMETERS

Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c 06 N71-13461  
Time of flight mass spectrometer with feedback means from the detector to the low source and a specific counter Patent  
[NASA-CASE-XNP-01056] c 14 N71-23041  
Ion microprobe mass spectrometer for analyzing fluid materials Patent  
[NASA-CASE-ERC-10014] c 14 N71-28863  
Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992  
Method and apparatus for determining the contents of contained gas samples  
[NASA-CASE-GSC-10903-1] c 14 N73-12444  
Quadrupole mass filter with means to generate a noise spectrum exclusive of the resonant frequency of the desired ions to deflect stable ions  
[NASA-CASE-XNP-04231] c 14 N73-32325  
Fast scan control for deflection type mass spectrometers  
[NASA-CASE-LAR-11428-1] c 35 N74-34857  
Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump  
[NASA-CASE-NPO-13663-1] c 35 N77-14406

- Method for fabricating a mass spectrometer inlet leak  
[NASA-CASE-GSC-12077-1] c 35 N77-24455
- Dual acting slit control mechanism  
[NASA-CASE-LAR-11370-1] c 35 N80-28686
- Ion mass spectrometer  
[NASA-CASE-NPO-15423-1] c 35 N84-28016
- MASS SPECTROSCOPY**
- Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c 35 N76-16393
- Fluid sampling device  
[NASA-CASE-GSC-12143-1] c 35 N77-32456
- Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184
- MASSIVELY PARALLEL PROCESSORS**
- Massively parallel processor computer  
[NASA-CASE-GSC-12233-1] c 60 N83-25378
- MATERIAL ABSORPTION**
- Sorption vacuum trap Patent  
[NASA-CASE-XER-09519] c 14 N71-18483
- MATERIALS**
- Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MS-25707-1] c 35 N85-29214
- MATERIALS HANDLING**
- Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492
- Catalyst bed removing tool Patent  
[NASA-CASE-XFR-00811] c 15 N70-36901
- Air bearing Patent  
[NASA-CASE-XMF-01887] c 15 N71-10617
- Quick attach and release fluid coupling assembly Patent  
[NASA-CASE-XKS-01985] c 15 N71-10782
- Method and apparatus for cryogenic wire stripping Patent  
[NASA-CASE-MFS-10340] c 15 N71-17628
- Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089
- Method of making foamed materials in zero gravity  
[NASA-CASE-XMF-09902] c 15 N72-11387
- Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c 03 N72-25021
- Apparatus for recovering matter adhered to a host surface  
[NASA-CASE-NPO-11213] c 15 N73-20514
- Apparatus and method for skin packaging articles  
[NASA-CASE-MFS-20855] c 15 N73-27405
- Apparatus for inserting and removing specimens from high temperature vacuum furnaces  
[NASA-CASE-LAR-10841-1] c 31 N74-27900
- Deployable flexible tunnel  
[NASA-CASE-MFS-22636-1] c 37 N76-22540
- Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441
- Acoustic system for material transport  
[NASA-CASE-NPO-15453-1] c 71 N83-32515
- Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679
- Threaded average temperature thermocouple  
[NASA-CASE-LAR-13475-1] c 35 N89-13763
- MATERIALS RECOVERY**
- Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245
- Process for the leaching of AP from propellant  
[NASA-CASE-NPO-14109-1] c 28 N80-23471
- Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119
- MATERIALS SCIENCE**
- Flammability test chamber Patent  
[NASA-CASE-KSC-10126] c 11 N71-24985
- Apparatus and method for measuring the Seebeck coefficient and resistivity of materials  
[NASA-CASE-NPO-11749] c 14 N73-28486
- MATERIALS TESTS**
- Thermal shock apparatus Patent  
[NASA-CASE-XLE-02024] c 14 N71-22964
- Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent  
[NASA-CASE-XMS-02930] c 11 N71-23042
- Resilience testing device Patent  
[NASA-CASE-XLA-08254] c 14 N71-26161
- Tube sealing device Patent  
[NASA-CASE-NPO-10431] c 15 N71-29132
- Burn rate testing apparatus  
[NASA-CASE-XMS-09690] c 33 N72-25913
- Multi axes vibration fixtures  
[NASA-CASE-MFS-20242] c 14 N73-19421
- Material fatigue testing system  
[NASA-CASE-MFS-20673] c 14 N73-20476
- MATHEMATICAL LOGIC**
- Logical function generator  
[NASA-CASE-XLA-05099] c 09 N73-13209
- MATRICES (CIRCUITS)**
- Solar cell submodule Patent  
[NASA-CASE-XNP-05821] c 03 N71-11056
- Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504
- Solar cell matrix Patent  
[NASA-CASE-NPO-10821] c 03 N71-19545
- Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c 10 N71-23033
- Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650
- Solid state matrices  
[NASA-CASE-NPO-10591] c 03 N72-22041
- MATRIX MATERIALS**
- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-3] c 27 N85-21350
- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-4] c 27 N85-21351
- Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-6] c 25 N85-30039
- Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526
- MCLEOD GAGES**
- Automatic recording McLeod gauge Patent  
[NASA-CASE-XLE-03280] c 14 N71-23093
- Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450
- MEASURING INSTRUMENTS**
- Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785
- Angular measurement system Patent  
[NASA-CASE-XMF-00447] c 14 N70-33179
- Two-plane balance Patent  
[NASA-CASE-XAC-00073] c 14 N70-34813
- Parallel motion suspension device Patent  
[NASA-CASE-XNP-01567] c 15 N70-41310
- Vibrating structure displacement measuring instrument Patent  
[NASA-CASE-XLA-03135] c 32 N71-16428
- Inspection gage for boss Patent  
[NASA-CASE-XMF-04966] c 14 N71-17658
- Vapor pressure measuring system and method Patent  
[NASA-CASE-XMS-01618] c 14 N71-20741
- Spherical tank gauge Patent  
[NASA-CASE-XMS-06236] c 14 N71-21007
- Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c 15 N71-22877
- Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991
- Moment of inertia test fixture Patent  
[NASA-CASE-XGS-01023] c 14 N71-22992
- Electron beam instrument for measuring electric fields Patent  
[NASA-CASE-XMF-10289] c 14 N71-23699
- Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790
- Internal flare angle gauge Patent  
[NASA-CASE-XMF-04415] c 14 N71-24693
- RC rate generator for slow speed measurement Patent  
[NASA-CASE-XMF-02966] c 10 N71-24863
- Transverse piezoresistance and pinch effect electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490
- Layout tool Patent  
[NASA-CASE-FRC-10005] c 15 N71-26145
- Method and apparatus for detecting gross leaks Patent  
[NASA-CASE-ERC-10033] c 14 N71-26672
- Arbitrarily shaped model survey system Patent  
[NASA-CASE-LAR-10098] c 32 N71-26681
- Thickness measuring and injection device Patent  
[NASA-CASE-MFS-20261] c 14 N71-27005
- Resonant infrasonic gauging apparatus  
[NASA-CASE-MS-11847-1] c 14 N72-11363
- Roll alignment detector  
[NASA-CASE-GSC-10514-1] c 14 N72-20379
- Cosmic dust sensor  
[NASA-CASE-GSC-10503-1] c 14 N72-20381
- Firefly pump-metering system  
[NASA-CASE-GSC-10218-1] c 15 N72-21465
- Capacitive tank gaging apparatus being independent of liquid distribution  
[NASA-CASE-MFS-21629] c 14 N72-22442
- Spherical measurement device  
[NASA-CASE-XLA-06683] c 14 N72-28436
- Altitude measuring system  
[NASA-CASE-ERC-10412-1] c 09 N73-12211
- Flow velocity and directional instrument  
[NASA-CASE-LAR-10855-1] c 14 N73-13415
- Multi axes vibration fixtures  
[NASA-CASE-MFS-20242] c 14 N73-19421
- Material fatigue testing system  
[NASA-CASE-MFS-20673] c 14 N73-20476
- Droplet monitoring probe  
[NASA-CASE-NPO-10985] c 14 N73-20478
- Apparatus and method for measuring the Seebeck coefficient and resistivity of materials  
[NASA-CASE-NPO-11749] c 14 N73-28486
- RF-source resistance meters  
[NASA-CASE-NPO-11291-1] c 14 N73-30388
- Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394
- Holographic thin film analyzer  
[NASA-CASE-MFS-20823-1] c 16 N73-30476
- Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c 35 N74-13129
- Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c 35 N74-22095
- Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MS-13999-1] c 52 N74-26626
- Electric field measuring and display system --- for cloud formations  
[NASA-CASE-KSC-10731-1] c 33 N74-27862
- Device for measuring tensile forces  
[NASA-CASE-MFS-21728-1] c 35 N74-27865
- Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c 35 N74-32877
- Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615
- Thrust measurement  
[NASA-CASE-XMS-05731] c 35 N75-29382
- Method and apparatus for measuring web material wound on a reel  
[NASA-CASE-GSC-11902-1] c 38 N77-17495
- Optical instrument employing reticle having preselected visual response pattern formed thereon  
[NASA-CASE-ARC-10976-1] c 74 N77-22950
- Direct reading inductance meter  
[NASA-CASE-NPO-13792-1] c 35 N77-32455
- Ruler for making navigational computations  
[NASA-CASE-XNP-01458] c 04 N78-17031
- Apparatus for handling micron size range particulate material  
[NASA-CASE-NPO-10151] c 37 N78-17386
- Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c 35 N78-19465
- Condition sensor system and method  
[NASA-CASE-MS-14805-1] c 54 N78-32720
- Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337
- Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338
- Fluid velocity measuring device  
[NASA-CASE-LAR-11729-1] c 34 N79-12359
- Method and apparatus for measuring minority carrier lifetimes and bulk diffusion length in P-N junction solar cells  
[NASA-CASE-NPO-14100-1] c 44 N79-12541
- Lightning current detector  
[NASA-CASE-KSC-11057-1] c 33 N79-14305
- Contour measurement system  
[NASA-CASE-MFS-23726-1] c 43 N79-26439
- Borehole geological assessment  
[NASA-CASE-NPO-14231-1] c 46 N80-10709
- Displacement probes with self-contained exciting medium  
[NASA-CASE-LAR-11690-1] c 35 N80-14371
- Viscosity measuring instrument  
[NASA-CASE-NPO-14501-1] c 35 N80-18357
- Geological assessment probe  
[NASA-CASE-NPO-14558-1] c 46 N80-24906
- Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MS-16777-1] c 51 N80-27067
- Skin friction measuring device for aircraft  
[NASA-CASE-FRC-11029-1] c 06 N81-17057
- Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15381
- Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779
- Flow resistivity instrument  
[NASA-CASE-LAR-13053-1] c 43 N83-29783
- Non-invasive method and apparatus for measuring pressure within a pliable vessel  
[NASA-CASE-ARC-11264-2] c 52 N83-29991
- Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-1] c 09 N84-12193
- Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934

Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575  
Self-charging metering and dispensing device for fluids  
[NASA-CASE-MSC-20275-1] c 35 N85-21595  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373  
Temperature averaging thermal probe  
[NASA-CASE-GSC-12795-1] c 35 N86-19580  
Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959  
Electrostatic discharge test apparatus  
[NASA-CASE-MSC-21094-1] c 35 N88-24941  
Universal precision sine bar attachment  
[NASA-CASE-MFS-28253-1] c 37 N88-24971  
Skin friction balance  
[NASA-CASE-LAR-13710-1] c 35 N88-29145  
Ice detector  
[NASA-CASE-LAR-13776-1] c 35 N88-29149  
Liquid thickness gauge  
[NASA-CASE-LAR-13826-1] c 35 N88-29150  
Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843

**MECHANICAL DEVICES**

Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c 14 N70-36907  
Load cell protection device Patent  
[NASA-CASE-XMS-06782] c 32 N71-15974  
Satellite despin device Patent  
[NASA-CASE-XMF-08523] c 31 N71-20396  
Two force component measuring device Patent  
[NASA-CASE-XAC-04886-1] c 14 N71-20439  
Latching mechanism Patent  
[NASA-CASE-XMS-03745] c 15 N71-21076  
Stirring apparatus for plural test tubes Patent  
[NASA-CASE-XAC-06956] c 15 N71-21177  
Random function tracer Patent  
[NASA-CASE-XLA-01401] c 15 N71-21179  
Canister closing device Patent  
[NASA-CASE-XLA-01446] c 15 N71-21528  
Nonmagnetic, explosive actuated indexing device Patent  
[NASA-CASE-XGS-02422] c 15 N71-21529  
Central spar and module joint Patent  
[NASA-CASE-XNP-02341] c 15 N71-21531  
Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255  
Alloys for bearings Patent  
[NASA-CASE-XLE-05033] c 15 N71-23810  
Mechanical actuator Patent  
[NASA-CASE-XGS-04548] c 15 N71-24045  
Winch having cable position and load indicators Patent  
[NASA-CASE-MSC-12052-1] c 15 N71-24599  
Redundant actuating mechanism Patent  
[NASA-CASE-XGS-08718] c 15 N71-24600  
Shock tube powder dispersing apparatus Patent  
[NASA-CASE-XLE-04946] c 17 N71-24911  
Self-lubricating gears and other mechanical parts Patent  
[NASA-CASE-MFS-14971] c 15 N71-24984  
Layout tool Patent  
[NASA-CASE-FRC-10005] c 15 N71-26145  
Thermostatic actuator  
[NASA-CASE-NPO-10637] c 15 N72-12409  
Ball screw linear actuator  
[NASA-CASE-NPO-11222] c 15 N72-25456  
Spherical measurement device  
[NASA-CASE-XLA-06683] c 14 N72-28436  
Thermal compensating structural member  
[NASA-CASE-MFS-20433] c 15 N72-28496  
Spiral groove seal  
[NASA-CASE-XLE-10326-2] c 15 N72-29488  
Solar energy powered heliotrope  
[NASA-CASE-GSC-10945-1] c 21 N72-31637  
Adjustable force probe  
[NASA-CASE-MFS-20760] c 14 N72-33377  
Rotary actuator  
[NASA-CASE-NPO-10680] c 31 N73-14855  
Collapsible structure for an antenna reflector  
[NASA-CASE-NPO-11751] c 07 N73-24176  
Foot pedal operated fluid type exercising device  
[NASA-CASE-MSC-11561-1] c 05 N73-32014  
Exposure interlock for oscilloscope cameras  
[NASA-CASE-LAR-10319-1] c 14 N73-32322  
Reefing system  
[NASA-CASE-LAR-10129-2] c 37 N74-20063  
Sprag solenoid brake --- development and operations of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c 37 N74-26976  
Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c 44 N74-33379

Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c 51 N75-13502  
Clock setter  
[NASA-CASE-LAR-11458-1] c 35 N76-16392  
Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c 37 N76-21554  
Reel safety brake  
[NASA-CASE-GSC-11960-1] c 37 N77-14479  
Mechanical sequencer  
[NASA-CASE-MSC-19536-1] c 37 N77-22482  
Combined docking and grasping device  
[NASA-CASE-MFS-23088-1] c 37 N77-23483  
Wrist joint assembly  
[NASA-CASE-MFS-23311-1] c 54 N78-17676  
Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119  
Actuator mechanism  
[NASA-CASE-GSC-11883-2] c 37 N78-31426  
Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654  
Method and apparatus for holding two separate metal pieces together for welding  
[NASA-CASE-GSC-12318-1] c 37 N80-23655  
Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492  
Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137  
Device for coupling a first vehicle to a second vehicle  
[NASA-CASE-GSC-12429-1] c 37 N81-14320  
Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661  
Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673  
Mechanical end joint system for structural column elements  
[NASA-CASE-LAR-12482-1] c 37 N82-32732  
Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312  
Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482  
Clamp-mount device  
[NASA-CASE-MFS-25510-1] c 37 N84-16560  
Method and apparatus for gripping uniaxial fibrous composite materials  
[NASA-CASE-LEW-13758-1] c 24 N84-27829  
Extended moment arm anti-spin device  
[NASA-CASE-LAR-12979-1] c 05 N85-21147  
Connection system --- insuring against loss of a tool component without using multiple tethers  
[NASA-CASE-MSC-20319-1] c 37 N85-21649  
Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333  
Apparatus for mounting a field emission cathode  
[NASA-CASE-LEW-14108-1] c 33 N87-28832

**MECHANICAL DRIVES**

Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658  
Anti-backlash circuit for hydraulic drive system Patent  
[NASA-CASE-XNP-01020] c 03 N71-12260  
Precision stepping drive Patent  
[NASA-CASE-MFS-14772] c 15 N71-17692  
Incremental motion drive system Patent  
[NASA-CASE-XNP-08897] c 15 N71-17694  
Ratchet mechanism Patent  
[NASA-CASE-MFS-12805] c 15 N71-17805  
Welding skate with computerized control Patent  
[NASA-CASE-XMF-07069] c 15 N71-23815  
Reversible motion drive system Patent  
[NASA-CASE-NPO-10173] c 15 N71-24696  
Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136  
Energy absorption device Patent  
[NASA-CASE-XNP-01848] c 15 N71-28959  
Boring bar drive mechanism Patent  
[NASA-CASE-XLA-03661] c 15 N71-33518  
Rotary actuator  
[NASA-CASE-NPO-10244] c 15 N72-26371  
Rotary actuator  
[NASA-CASE-NPO-10680] c 31 N73-14855  
Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c 37 N74-21060  
Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MFS-20645-1] c 37 N74-23070  
Concentric differential gearing arrangement  
[NASA-CASE-ARC-10462-1] c 37 N74-27901  
Geneva mechanism --- including star wheel and driver  
[NASA-CASE-NPO-13281-1] c 37 N75-13266  
Mechanical thermal motor  
[NASA-CASE-MFS-23062-1] c 37 N77-12402

Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401  
Hydraulic drain means for servo-systems  
[NASA-CASE-NPO-10316-1] c 37 N77-22479  
Mechanical sequencer  
[NASA-CASE-MSC-19536-1] c 37 N77-22482  
Gas turbine engine with convertible accessories  
[NASA-CASE-LEW-12390-1] c 07 N78-17056  
Wabble gear drive mechanism --- for aerospace environments  
[NASA-CASE-WOO-00625] c 37 N78-17385  
Toggle mechanism for pinching metal tubes  
[NASA-CASE-GSC-12274-1] c 37 N79-28550  
Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183  
Redundant motor drive system  
[NASA-CASE-MFS-23777-1] c 37 N80-32716  
Belt for transmitting power from a cogged driving member to a cogged driven member  
[NASA-CASE-GSC-12289-1] c 37 N80-32717  
Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220  
Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364  
Clutchless multiple drive source for output shaft  
[NASA-CASE-ARC-11325-1] c 37 N82-22496  
Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944  
Variable speed drive  
[NASA-CASE-GSC-12643-1] c 37 N83-26078  
Remotely operable peristaltic pump  
[NASA-CASE-MFS-28059-1] c 37 N86-32738  
Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332  
Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118

**MECHANICAL ENGINEERING**

Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c 37 N74-18127  
Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475

**MECHANICAL MEASUREMENT**

Strain gage Patent Application  
[NASA-CASE-FRC-10053] c 14 N70-35587  
Apparatus for absorbing and measuring power Patent  
[NASA-CASE-XLE-00720] c 14 N70-40201  
Strain sensor for high temperatures Patent  
[NASA-CASE-XNP-09205] c 14 N71-17657  
Extensometer Patent  
[NASA-CASE-XMF-04680] c 15 N71-19489  
Hall effect transducer  
[NASA-CASE-LAR-10620-1] c 09 N72-25255  
Strain gage mounting assembly  
[NASA-CASE-NPO-13170-1] c 35 N76-14430  
Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400  
Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875

**MECHANICAL PROPERTIES**

High temperature testing apparatus Patent  
[NASA-CASE-XLE-00335] c 14 N70-35368  
Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213  
Process for improving mechanical properties of epoxy resins by addition of cobalt ions  
[NASA-CASE-LAR-13230-1] c 24 N84-34571  
Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349  
Containerless high purity pulling process and apparatus for glass fiber  
[NASA-CASE-MFS-25905-2] c 31 N86-21718  
Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526  
Polyphenylquinoxalines containing alkylendioxo groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337

**MECHANICS (PHYSICS)**

Gravity stabilized flying vehicle Patent  
[NASA-CASE-MSC-12111-1] c 02 N71-11039

**MECHANIZATION**

Machine for use in monitoring fatigue life for a plurality of elastomeric specimens  
[NASA-CASE-NPO-13731-1] c 39 N78-10493

**MEDICAL ELECTRONICS**

- Circuit for detecting initial systole and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c 54 N75-13531
- Pocket ECG electrode  
[NASA-CASE-ARC-11258-1] c 52 N80-33081
- Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612

**MEDICAL EQUIPMENT**

- Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189
- Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202
- Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135
- Telemetry actuated switch  
[NASA-CASE-ARC-10105] c 09 N72-17153
- Tilting table for ergometer and for other biomedical devices  
[NASA-CASE-MFS-21010-1] c 05 N73-30078
- Automatic instrument for chemical processing to detect microorganism in biological samples by measuring light reactions  
[NASA-CASE-GSC-11169-2] c 05 N73-32011
- Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123
- Heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c 54 N75-27761
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-1] c 54 N76-22914
- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525
- Corneal seal device  
[NASA-CASE-LEW-12258-1] c 52 N77-28716
- Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717
- Tissue macerating instrument  
[NASA-CASE-LEW-12668-1] c 52 N78-14773
- Flow compensating pressure regulator  
[NASA-CASE-LEW-12718-1] c 34 N78-25351
- Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12723-1] c 52 N80-18690
- Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605
- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711
- Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662
- Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875
- Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862
- Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785
- System and method for moving a probe to follow movements of tissue  
[NASA-CASE-NPO-15197-1] c 52 N83-25346
- Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388
- Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389
- Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112

**MELTING**

- Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12881-1] c 27 N84-14323
- Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125

**MELTING POINTS**

- Mixed diamines for lower melting addition polyimide preparation and utilization  
[NASA-CASE-LAR-12054-1] c 27 N79-33316
- Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314

**MELTS (CRYSTAL GROWTH)**

- Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798
- Preparation of monotectic alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown  
[NASA-CASE-MFS-23816-1] c 26 N80-23419
- Means for growing ribbon crystals without subjecting the crystals to thermal shock-induced strains  
[NASA-CASE-NPO-14298-1] c 76 N80-32244
- Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389

- Electromigration process for the purification of molten silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105
- Controlled in situ etch-back  
[NASA-CASE-NPO-15625-1] c 76 N83-20789
- Apparatus and method for heating a material in a transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220
- Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113
- Ribbon growing method and apparatus  
[NASA-CASE-NPO-16306-1-CU] c 76 N85-30934
- Containerless high purity pulling process and apparatus for glass fiber  
[NASA-CASE-MFS-25905-2] c 31 N86-21718
- High-temperature, high-pressure optical cell  
[NASA-CASE-MFS-26000-1] c 74 N87-14971
- Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286

**MEMBRANE STRUCTURES**

- Liquid junction and method of fabricating the same Patent Application  
[NASA-CASE-NPO-10682] c 15 N70-34699
- Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233
- Flexible composite membrane Patent  
[NASA-CASE-XNP-08837] c 18 N71-16210
- Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747
- Meteoroid capture cell construction  
[NASA-CASE-MSC-12423-1] c 91 N76-30131
- Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163
- In-situ cross linking of polyvinyl alcohol --- application to battery separator films  
[NASA-CASE-LEW-13135-2] c 27 N81-24257
- Separator for alkaline batteries and method of making same  
[NASA-CASE-GSC-10350-1] c 44 N82-24642
- Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644

**MEMBRANES**

- Apparatus for measuring swelling characteristics of membranes  
[NASA-CASE-XGS-03865] c 14 N69-21363
- Mixture separation cell Patent  
[NASA-CASE-XMS-02952] c 18 N71-20742
- Ionene membrane separator  
[NASA-CASE-NPO-11091] c 18 N72-22567
- Dual membrane hollow fiber fuel cell and method of operating same  
[NASA-CASE-NPO-13732-1] c 44 N79-10513
- Microelectrophoretic apparatus and process  
[NASA-CASE-ARC-11121-1] c 25 N79-14169
- Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687
- Reverse osmosis membrane of high urea rejection properties --- water purification  
[NASA-CASE-ARC-10980-1] c 27 N80-23452
- Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076
- Air removal device --- life support systems  
[NASA-CASE-XLA-08914-2] c 25 N82-21269
- Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641
- Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370
- Optical fiber tactile sensor  
[NASA-CASE-NPO-15375-1] c 74 N84-11921
- Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361
- Method of forming dynamic membrane on stainless steel support  
[NASA-CASE-MSC-18172-3] c 31 N88-29052

**MEMORY**

- Method for making conductors for ferrite memory arrays --- from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c 24 N75-13032
- Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151

**MEMORY (COMPUTERS)**

- Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992
- Real-time garbage collection for list processing  
[NASA-CASE-MSC-20964-1] c 60 N87-14863

- Hybrid analog-digital associative neural network  
[NASA-CASE-NPO-17058-1-CU] c 62 N87-25803

**MERCURY (METAL)**

- Mercury capillary interrupter Patent  
[NASA-CASE-XNP-02251] c 12 N71-20896
- Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312
- Feed system for an ion thruster  
[NASA-CASE-NPO-10737] c 28 N72-11709

**MERCURY VAPOR**

- Mercury capillary interrupter Patent  
[NASA-CASE-XNP-02251] c 12 N71-20896
- Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294

**MESSAGE PROCESSING**

- Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946

**METABOLIC WASTES**

- Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721
- Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MSC-16777-1] c 51 N80-27067

**METABOLISM**

- Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086
- Process for control of cell division  
[NASA-CASE-LAR-10773-3] c 51 N77-25769
- Metabolic rate meter and method  
[NASA-CASE-MSC-12239-1] c 52 N79-21750

**METAL BONDING**

- Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786
- Method of making a diffusion bonded refractory coating Patent  
[NASA-CASE-XLE-01604-2] c 15 N71-15610
- Metal valve pinile with encapsulated elastomeric body Patent  
[NASA-CASE-MSC-12116-1] c 15 N71-17648
- Apparatus for the determination of the existence or non-existence of a bonding between two members Patent  
[NASA-CASE-MFS-13686] c 15 N71-18132
- Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078
- Bonded elastomeric seal for electrochemical cells Patent  
[NASA-CASE-XGS-02631] c 03 N71-23006
- Silicon solar cell with cover glass bonded to cell by metal pattern Patent  
[NASA-CASE-XLE-08569] c 03 N71-23449
- Positive contact resistance soldering unit  
[NASA-CASE-KSC-10242] c 15 N72-23497
- Bonding or repairing process  
[NASA-CASE-MSC-12357] c 15 N73-12489
- Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c 37 N74-21057
- Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c 37 N75-25185
- Bimetallic junctions  
[NASA-CASE-LEW-11573-1] c 26 N77-28265
- Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289
- Totally confined explosive welding  
[NASA-CASE-LAR-10941-2] c 37 N79-13364
- Method and apparatus for holding two separate metal pieces together for welding  
[NASA-CASE-GSC-12318-1] c 37 N80-23655
- Heat exchanger and method of making --- rocket lining  
[NASA-CASE-LEW-12441-2] c 34 N80-24573
- Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206
- Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855
- Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807
- Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550
- Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981

**METAL COATINGS**

- Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443
- Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078

## METAL COMPOUNDS

- Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047
- Trialkyl-dihalotantalum and niobium compounds Patent  
[NASA-CASE-XNP-04023] c 06 N71-28808
- Silicide coatings for refractory metals Patent  
[NASA-CASE-XLE-10910] c 18 N71-29040
- Selective nickel deposition  
[NASA-CASE-LEW-10965-1] c 15 N72-25452
- Wide temperature range electronic device with lead attachment  
[NASA-CASE-ERC-10224-2] c 09 N73-27150
- Panel for selectively absorbing solar thermal energy and the method of producing said panel  
[NASA-CASE-MFS-22562-1] c 44 N76-14595
- Ultraviolet light reflective coating  
[NASA-CASE-GSC-11786-1] c 24 N76-24363
- Metallic hot wire anemometer --- for high speed wind tunnel tests  
[NASA-CASE-ARC-10911-1] c 35 N77-20400
- Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527
- Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186
- Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456
- Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005
- Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550
- Nickel base coating alloy  
[NASA-CASE-LEW-13834-1] c 26 N87-14482
- Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613
- Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334
- METAL COMPOUNDS**  
Phthalocyanine polymers  
[NASA-CASE-ARC-11413-1] c 27 N85-21348
- METAL CUTTING**  
Metal shearing energy absorber  
[NASA-CASE-HQN-10638-1] c 15 N73-30460
- Vee-notching device --- with adjustable carriage  
[NASA-CASE-MFS-20730-1] c 39 N74-13131
- Hole cutter --- drill bits and rotating shaft  
[NASA-CASE-MFS-22649-1] c 37 N75-25186
- Method and tool for machining a transverse slot about a bore  
[NASA-CASE-LAR-11855-1] c 37 N81-14319
- METAL FATIGUE**  
Method for alleviating thermal stress damage in laminates  
[NASA-CASE-LEW-12493-2] c 24 N81-26179
- METAL FIBERS**  
Lightweight electrically-powered flexible thermal laminate --- made of metal and nonconductive yarns  
[NASA-CASE-MSC-12662-1] c 33 N79-12331
- METAL FILMS**  
Means and methods of depositing thin films on substrates Patent  
[NASA-CASE-XNP-00595] c 15 N70-34967
- Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-01765] c 18 N71-10772
- Bismuth-lead coatings for gas bearings used in atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c 15 N71-20739
- Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-10337] c 15 N71-24046
- Magnetic recording head and method of making same Patent  
[NASA-CASE-GSC-10097-1] c 08 N71-27210
- Light regulator  
[NASA-CASE-LAR-10836-1] c 26 N72-27784
- Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c 27 N74-13270
- Multitarget sequential sputtering apparatus  
[NASA-CASE-NPO-13345-1] c 37 N75-19684
- Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436
- Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015
- Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394
- Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589
- Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334
- METAL FINISHING**  
Selective plating of etched circuits without removing previous plating Patent  
[NASA-CASE-XGS-03120] c 15 N71-24047

- Surface finishing --- for aircraft wings  
[NASA-CASE-MSC-12631-1] c 24 N77-28225
- METAL FOILS**  
Folding apparatus Patent  
[NASA-CASE-XLA-00137] c 15 N70-33180
- Thermal control of space vehicles Patent  
[NASA-CASE-XLA-01291] c 33 N70-36617
- Thermal radiation shielding Patent  
[NASA-CASE-XLE-03432] c 33 N71-24145
- Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692
- Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c 35 N76-18400
- Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470
- METAL FUELS**  
Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c 28 N74-33209
- METAL HALIDES**  
Process for making anhydrous metal halides  
[NASA-CASE-LEW-11860-1] c 37 N76-18458
- Direct current ballast circuit for metal halide lamp  
[NASA-CASE-MSC-18407-1] c 33 N82-24427
- High power metallic halide laser --- amplifying a copper chloride laser  
[NASA-CASE-NPO-14782-1] c 36 N82-28616
- Method and apparatus for convection control of metallic halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417
- METAL HYDRIDES**  
Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436
- METAL IONS**  
Metal containing polymers from cyclic tetrameric phenylphosphonitriamides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363
- Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206
- Process for improving mechanical properties of epoxy resins by addition of cobalt ions  
[NASA-CASE-LAR-12320-1] c 24 N84-34571
- METAL JOINTS**  
Cryogenic connector for vacuum use Patent  
[NASA-CASE-XGS-02441] c 15 N70-41629
- Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170
- X-ray determination of parts alignment  
[NASA-CASE-MSC-20418-1] c 74 N86-20126
- METAL MATRIX COMPOSITES**  
Reinforced metallic composites Patent  
[NASA-CASE-XLE-02428] c 17 N70-33288
- Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142
- Self-lubricating gears and other mechanical parts Patent  
[NASA-CASE-MFS-14971] c 15 N71-24984
- Refractory metal base alloy composites  
[NASA-CASE-XLE-03940-2] c 17 N72-28536
- Method of preparing graphite reinforced aluminum composite  
[NASA-CASE-MFS-21077-1] c 24 N75-28135
- Method of making reinforced composite structure  
[NASA-CASE-LEW-12619-1] c 24 N77-19171
- Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289
- Preparation of monotectic alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown  
[NASA-CASE-MFS-23816-1] c 26 N80-23419
- Heat exchanger and method of making --- rocket lining  
[NASA-CASE-LEW-12441-2] c 34 N80-24573
- Method for alleviating thermal stress damage in laminates --- metal matrix composites  
[NASA-CASE-LEW-12493-1] c 24 N81-17170
- Method for alleviating thermal stress damage in laminates  
[NASA-CASE-LEW-12493-2] c 24 N81-26179
- Fuselage structure using advanced technology fiber reinforced composites  
[NASA-CASE-LAR-11688-1] c 24 N82-26384
- Metal matrix composite structural panel construction  
[NASA-CASE-LAR-12807-1] c 24 N84-11214
- Arc spray fabrication of metal matrix composite monotape  
[NASA-CASE-LEW-13828-1] c 24 N85-30027
- Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613
- METAL OXIDE SEMICONDUCTORS**  
Gyator employing field effect transistors  
[NASA-CASE-MFS-21433] c 09 N73-20232

- Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c 76 N74-20329
- Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638
- Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c 76 N75-25730
- Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527
- Multilevel metallization method for fabricating a metal oxide semiconductor device  
[NASA-CASE-MFS-23541-1] c 76 N79-14906
- Method of making V-MOS field effect transistors utilizing a two-step anisotropic etching and ion implantation  
[NASA-CASE-GSC-12515-1] c 33 N81-26360
- Schottky barrier solar cell  
[NASA-CASE-NPO-13689-2] c 44 N81-29525
- High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177
- GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150
- Integrated photo-responsive metal oxide semiconductor circuit  
[NASA-CASE-GSC-12762-1] c 33 N80-14271
- METAL OXIDES**  
Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142
- Photoetching of metal-oxide layers  
[NASA-CASE-ERC-10108] c 06 N72-21094
- Production of metal powders  
[NASA-CASE-XLE-06461] c 17 N72-22530
- Method for obtaining oxygen from lunar or similar soil  
[NASA-CASE-MSC-12408-1] c 46 N74-13011
- Method for depositing an oxide coating  
[NASA-CASE-LEW-13131-1] c 44 N83-10494
- Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388
- Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748
- Thermal barrier coating system  
[NASA-CASE-LEW-13324-2] c 24 N85-21266
- Apparatus for producing oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-2] c 27 N86-32569
- Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736
- METAL PARTICLES**  
Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983
- Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729
- Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c 28 N74-33209
- METAL PLATES**  
Detector panels-micrometeoroid impact Patent  
[NASA-CASE-XLA-05906] c 31 N71-16221
- Nuclear fuel elements  
[NASA-CASE-XLE-00209] c 22 N73-32528
- Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264
- Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492
- Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930
- High effectiveness contour matching contact heat exchanger  
[NASA-CASE-MSC-20840-1] c 34 N88-29132
- METAL POWDER**  
Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468
- Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022
- Shock tube powder dispersing apparatus Patent  
[NASA-CASE-XLE-04946] c 17 N71-24911
- Preparation of high purity copper fluoride  
[NASA-CASE-LEW-10794-1] c 06 N72-17093
- Production of metal powders  
[NASA-CASE-XLE-06461] c 17 N72-22530
- Apparatus for producing metal powders  
[NASA-CASE-XLE-06461-2] c 17 N72-28535
- Peen plating  
[NASA-CASE-GSC-11163-1] c 15 N73-32360
- Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456
- METAL SHEETS**  
Light shield and infrared reflector for fatigue testing Patent  
[NASA-CASE-XLA-01782] c 14 N71-26136



- Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c 37 N74-11301
- Method of making an explosively welded scarf joint  
[NASA-CASE-LAR-11211-1] c 37 N75-12326
- Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c 37 N75-26371
- Apparatus for welding sheet material --- butt joints  
[NASA-CASE-XMS-01330] c 37 N75-27376
- Method of bonding plasticized elastomer to metal and articles produced thereby  
[NASA-CASE-MFS-25181-1] c 27 N82-24340
- Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450
- METAL SHELLS**  
Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886
- METAL SPINNING**  
Spin forming tubular elbows Patent  
[NASA-CASE-XMF-01083] c 15 N71-22723
- METAL SPRAYING**  
Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550
- METAL STRIPS**  
Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411
- Interconnection of solar cells Patent  
[NASA-CASE-XGS-01475] c 03 N71-11058
- Method of making tubes Patent  
[NASA-CASE-XGS-04175] c 15 N71-18579
- High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c 70 N74-21300
- Method for maintaining precise suction strip porosities  
[NASA-CASE-LAR-13638-1] c 31 N88-29051
- METAL SURFACES**  
Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465
- Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c 17 N71-24830
- Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875
- Process for reducing secondary electron emission Patent  
[NASA-CASE-XNP-09469] c 24 N71-25555
- Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312
- Temperature reducing coating for metals subject to flame exposure Patent  
[NASA-CASE-XLE-00035] c 33 N71-29151
- Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c 35 N74-22095
- Surface finishing  
[NASA-CASE-MS-C-12631-3] c 27 N81-14077
- Improved refractory coatings --- sputtered coatings on substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209
- Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455
- Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188
- Coating with overlay metallic-cermet alloy systems  
[NASA-CASE-LEW-13639-2] c 26 N84-27855
- Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334
- Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179
- METAL VAPOR LASERS**  
High power metallic halide laser --- amplifying a copper chloride laser  
[NASA-CASE-NPO-14782-1] c 36 N82-28616
- Method and apparatus for convection control of metallic halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417
- METAL VAPORS**  
Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983
- Apparatus for making a metal slurry product Patent  
[NASA-CASE-XLE-00010] c 15 N70-33382
- Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c 36 N75-32441
- Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477
- METAL WORKING**  
Electric arc welding Patent  
[NASA-CASE-XMF-00392] c 15 N70-34814
- Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114] c 15 N71-17650
- Protective device for machine and metalworking tools Patent  
[NASA-CASE-XLE-01092] c 15 N71-22797
- Portable milling tool Patent  
[NASA-CASE-XMF-03511] c 15 N71-22799
- Extrusion die for refractory metals Patent  
[NASA-CASE-XLE-06773] c 15 N71-23817
- Magnetomotive metal working device Patent  
[NASA-CASE-XMF-03793] c 15 N71-24833
- Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-3] c 15 N71-24865
- Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968
- Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c 37 N76-14461
- Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491
- METAL-METAL BONDING**  
Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443
- Honeycomb panel and method of making same Patent  
[NASA-CASE-XMF-01402] c 18 N71-21651
- Capillary flow weld-bonding  
[NASA-CASE-LAR-11726-1] c 37 N76-27568
- Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455
- Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170
- Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-19394-1] c 35 N83-35338
- METALLIC GLASSES**  
Glass compositions with a high modulus of elasticity --- nontoxic glass fibers  
[NASA-CASE-HQN-10274-1] c 27 N82-29451
- High modulus invert analog glass compositions containing beryllia  
[NASA-CASE-HQN-10931-2] c 27 N82-29452
- METALLIZING**  
Multilevel metallization method for fabricating a metal oxide semiconductor device  
[NASA-CASE-MFS-23541-1] c 76 N79-14906
- Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555
- Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550
- METALLOGRAPHY**  
Method for etching copper Patent  
[NASA-CASE-XGS-06306] c 17 N71-16044
- METALLOSILOXANE POLYMER**  
Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c 37 N74-21058
- METALLURGY**  
Induction furnace with perforated tungsten foil shielding Patent  
[NASA-CASE-XLE-04026] c 14 N71-23267
- Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229
- METALS**  
Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226
- Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710
- Convoluting device for forming convolutions and the like Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811
- Forming tool for ribbon or wire  
[NASA-CASE-XLA-05966] c 15 N72-12408
- Peen plating  
[NASA-CASE-GSC-11163-1] c 15 N73-32360
- Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063
- Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c 31 N74-23065
- Production of pure metals  
[NASA-CASE-LEW-10906-1] c 25 N74-30502
- Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c 35 N76-15434
- Method of forming shrink-fit compression seal  
[NASA-CASE-LAR-11563-1] c 37 N77-23482
- Solar cells having integral collector grids  
[NASA-CASE-LEW-12819-1] c 44 N79-11467
- Metal phthalocyanine polymers  
[NASA-CASE-ARC-11405-1] c 27 N84-27884
- Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126
- Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MS-C-20622-1] c 25 N86-19413
- Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455
- Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151
- METASTABLE STATE**  
Stabilization of He<sub>2</sub>(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826
- Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374
- METEORITE COLLISIONS**  
Pressurized panel  
[NASA-CASE-XLA-08916-2] c 14 N73-28487
- Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c 91 N74-13130
- METEORITES**  
Method of making pressurized panel Patent  
[NASA-CASE-XLA-08916] c 15 N71-29018
- METEORITIC DAMAGE**  
Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent  
[NASA-CASE-XLE-01246] c 14 N71-10797
- METEOROID HAZARDS**  
Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c 35 N75-33367
- METEOROID PROTECTION**  
Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679
- Coaxial tube tether/transmission line for manned nuclear space power  
[NASA-CASE-LEW-14338-1] c 20 N87-10174
- METEOROLIDS**  
Apparatus for photographing meteors  
[NASA-CASE-LAR-10226-1] c 14 N73-19419
- Meteoroid capture cell construction  
[NASA-CASE-MS-C-12423-1] c 91 N76-30131
- METEOROLOGICAL BALLOONS**  
Meteorological balloon Patent  
[NASA-CASE-XMF-04163] c 02 N71-23007
- METHANE**  
Gas lubricant compositions Patent  
[NASA-CASE-XLE-00353] c 18 N70-39897
- Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631
- METHYL ALCOHOL**  
Supercritical multicomponent solvent coal extraction  
[NASA-CASE-NPO-15767-1] c 23 N84-16255
- METHYL COMPOUNDS**  
Process for producing tris s(n-methylamino) methylsilane  
[NASA-CASE-MFS-25721-1] c 25 N85-21280
- Polymer of phosphonomethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525
- METHYLENE**  
Carboranyl-methylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750
- Process for crosslinking methylene-containing aromatic polymers with ionizing radiation  
[NASA-CASE-LAR-13448-1] c 27 N86-24840
- MICHELSON INTERFEROMETERS**  
Interferometer direction sensor Patent  
[NASA-CASE-NPO-10320] c 14 N71-17655
- Interferometer servo system Patent  
[NASA-CASE-NPO-10300] c 14 N71-17662
- Multispectral imaging system  
[NASA-CASE-MS-C-12404-1] c 23 N73-13661
- Interferometer mirror tilt correcting system  
[NASA-CASE-NPO-13687-1] c 35 N78-18391
- MICROANALYSIS**  
Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913
- MICROBALANCES**  
Null-type vacuum microbalance Patent  
[NASA-CASE-XAC-00472] c 15 N70-40180
- Microbalance --- for measuring particle mass  
[NASA-CASE-MS-C-11242] c 35 N78-17358
- MICROBALLOONS**  
Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442
- MICROBIOLOGY**  
Variable angle tube holder  
[NASA-CASE-LAR-10507-1] c 11 N72-25284



## MICROCHANNELS

- Apparatus for microbiological sampling --- including automatic swabbing  
[NASA-CASE-LAR-11069-1] c 35 N75-12272
- Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c 51 N75-13502
- Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c 35 N75-27330
- Application of luciferase assay for ATP to antimicrobial drug susceptibility  
[NASA-CASE-GSC-12039-1] c 51 N77-22794
- Electrochemical detection device --- for use in microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073
- Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698
- MICROCHANNELS**
- Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659
- MICROCRACKS**
- System for detecting substructure microfractures and method therefore  
[NASA-CASE-NPO-14192-1] c 39 N80-10507
- Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996
- MICROELECTRONICS**
- Apparatus and method for separating a semiconductor wafer Patent  
[NASA-CASE-ERC-10138] c 26 N71-14354
- Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234
- Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783
- Method of coating through-holes Patent  
[NASA-CASE-XMF-05999] c 15 N71-29032
- Microcircuit negative cutter  
[NASA-CASE-XLA-09843] c 15 N72-27485
- Screened circuit capacitors  
[NASA-CASE-LAR-10294-1] c 26 N72-28762
- Active tuned circuit  
[NASA-CASE-GSC-11340-1] c 10 N72-33230
- Automatic visual inspection system for microelectronics  
[NASA-CASE-NPO-13282] c 38 N78-17396
- Method and apparatus for fabricating improved solar cell modules  
[NASA-CASE-NPO-14416-1] c 44 N81-14389
- Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-15670-1] c 33 N82-33634
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884
- MICROFIBERS**
- Small conductive particle sensor --- microfiber size determination  
[NASA-CASE-LAR-12552-1] c 35 N82-11431
- MICROFILMS**
- Apparatus for inspecting microfilm Patent  
[NASA-CASE-MFS-20240] c 14 N71-26788
- MICROINSTRUMENTATION**
- Apparatus for handling micron size range particulate material  
[NASA-CASE-NPO-10151] c 37 N78-17386
- MICROMETEORITES**
- Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c 91 N74-13130
- Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c 35 N76-15433
- MICROMETEORITIDS**
- Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c 14 N70-41332
- Force transducer Patent  
[NASA-CASE-XAC-01101] c 14 N70-41957
- Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996
- Detector panels-micrometeoroid impact Patent  
[NASA-CASE-XLA-05906] c 31 N71-16221
- Rotary bead dropper and selector for testing micrometeorite detectors Patent  
[NASA-CASE-XGS-03304] c 09 N71-22988
- Micrometeoroid penetration measuring device Patent  
[NASA-CASE-XLA-00941] c 14 N71-23240
- Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MS-12109] c 18 N71-26285
- Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477
- Meteoroid detector  
[NASA-CASE-LAR-10483-1] c 14 N73-32327

- Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c 35 N74-21062
- Semiconductor projectile impact detector  
[NASA-CASE-MFS-23008-1] c 35 N78-18390
- MICROMETERS**
- Apparatus for handling micron size range particulate material  
[NASA-CASE-NPO-10151] c 37 N78-17386
- MICROMINIATURIZATION**
- Compensating radiometer  
[NASA-CASE-XLA-04556] c 14 N69-27484
- MICROORGANISMS**
- Bacteriostatic conformal coating and methods of application Patent  
[NASA-CASE-GSC-10007] c 18 N71-16046
- Vacuum probe surface sampler  
[NASA-CASE-LAR-10623-1] c 14 N73-30395
- Measurement of gas production of microorganisms --- using pressure sensors  
[NASA-CASE-LAR-11326-1] c 35 N75-33368
- Biocontamination and particulate detection system  
[NASA-CASE-NPO-13953-1] c 35 N79-28527
- Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698
- Apparatus and process for microbial detection and enumeration  
[NASA-CASE-LAR-12709-1] c 35 N82-28604
- Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227
- MICROPARTICLES**
- Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936
- Powder fed sheared dispersal particle generator  
[NASA-CASE-LAR-12785-1] c 37 N84-16561
- MICROPHONES**
- Audio signal processor Patent  
[NASA-CASE-MS-12223-1] c 07 N71-26181
- Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234
- Wind tunnel microphone structure Patent  
[NASA-CASE-XNP-00250] c 11 N71-28779
- High-temperature microphone system --- for measuring pressure fluctuations in gases at high temperature  
[NASA-CASE-LAR-12375-1] c 32 N79-24203
- Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975
- Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597
- MICROPROCESSORS**
- Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411
- Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992
- MICROSCOPES**
- Absolute focus lock for microscopes  
[NASA-CASE-LAR-10184] c 14 N72-22445
- Hand-held photomicroscope  
[NASA-CASE-ARC-10468-1] c 14 N73-33361
- Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594
- MICROSTRIP ANTENNAS**
- Multiple band circularly polarized microstrip antenna  
[NASA-CASE-MS-18334-1] c 32 N80-32604
- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MS-18606-1] c 32 N82-11336
- MICROSTRIP TRANSMISSION LINES**
- Thin conformal antenna array for microwave power conversions  
[NASA-CASE-NPO-13886-1] c 32 N78-24391
- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MS-18606-1] c 32 N82-11336
- MICROSTRUCTURE**
- Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent  
[NASA-CASE-XLE-03940] c 18 N71-26153
- Refractory metal base alloy composites  
[NASA-CASE-XLE-03940-2] c 17 N72-28536
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c 37 N74-21055
- Method of determining bond quality of power transistors attached to substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MFS-21931-1] c 37 N75-26372
- Preparation of monotelectic alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown  
[NASA-CASE-MFS-23816-1] c 26 N80-23419

- Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095
- Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160
- High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938
- MICROTHRUST**
- Annular slit colloid thruster Patent  
[NASA-CASE-GSC-10709-1] c 28 N71-25213
- Heated porous plug microthruster  
[NASA-CASE-GSC-10640-1] c 28 N72-18766
- MICROWAVE AMPLIFIERS**
- Temperature-compensating means for cavity resonator of amplifier Patent  
[NASA-CASE-XNP-00449] c 14 N70-35220
- Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350
- MICROWAVE ANTENNAS**
- Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486
- Low noise single aperture multimode monopulse antenna feed system Patent  
[NASA-CASE-XNP-01735] c 07 N71-22750
- Omnidirectional microwave spacecraft antenna Patent  
[NASA-CASE-XLA-03114] c 03 N71-22903
- Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292
- Multi-purpose antenna employing dish reflector with plural coaxial horn feeds  
[NASA-CASE-NPO-11264] c 07 N72-25174
- Omnidirectional slot antenna for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c 09 N72-25247
- Multiple reflection conical microwave antenna  
[NASA-CASE-NPO-11661] c 07 N73-14130
- Thin conformal antenna array for microwave power conversions  
[NASA-CASE-NPO-13886-1] c 32 N78-24391
- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MS-18606-1] c 32 N82-11336
- MICROWAVE CIRCUITS**
- Quasi-optical microwave component Patent  
[NASA-CASE-ERC-10011] c 07 N71-29065
- Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348
- Laser activated MTOS microwave device  
[NASA-CASE-NPO-16112-1] c 33 N86-19516
- MICROWAVE COUPLING**
- Indexing microwave switch Patent  
[NASA-CASE-XNP-06507] c 09 N71-23548
- Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143
- MICROWAVE EQUIPMENT**
- Array phasing device Patent  
[NASA-CASE-ERC-10046] c 10 N71-18722
- Broadband microwave waveguide window Patent  
[NASA-CASE-XNP-08880] c 09 N71-24808
- Dual frequency microwave reflex feed  
[NASA-CASE-NPO-13091-1] c 09 N73-12214
- Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c 33 N75-26245
- Refrigerated coaxial coupling --- for microwave equipment  
[NASA-CASE-NPO-13504-1] c 33 N75-30430
- Microwave dichroic plate  
[NASA-CASE-GSC-12171-1] c 33 N79-28416
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373
- MICROWAVE FILTERS**
- High power microwave power divider Patent  
[NASA-CASE-NPO-11031] c 07 N71-33606
- High-Q bandpass resonators utilizing bandstop resonator pairs  
[NASA-CASE-GSC-10990-1] c 09 N73-26195
- MICROWAVE FREQUENCIES**
- Varactor high level mixer  
[NASA-CASE-XGS-02171] c 09 N69-24324
- Voltage tunable Gunn-type microwave generator Patent  
[NASA-CASE-XER-07894] c 09 N71-18721
- Composite antenna feed  
[NASA-CASE-GSC-11046-1] c 07 N73-28013
- MICROWAVE OSCILLATORS**
- Magnetically actuated tuning method for Gunn oscillators  
[NASA-CASE-NPO-12106] c 09 N73-15235
- Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c 33 N74-10195

- Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1-CU] c 33 N88-26596
- MICROWAVE RADIOMETERS**  
Method and means for providing an absolute power measurement capability Patent  
[NASA-CASE-ERC-11020] c 14 N71-26774  
Electromagnetic power absorber  
[NASA-CASE-NPO-13830-1] c 32 N80-14281  
Microwave limb sounder --- measuring trace gases in the upper atmosphere  
[NASA-CASE-NPO-14544-1] c 46 N82-12685  
CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040  
System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443
- MICROWAVE REFLECTOMETERS**  
Reflectometer for receiver input impedance match measurement Patent  
[NASA-CASE-XNP-10843] c 07 N71-11267  
Microwave flaw detector Patent  
[NASA-CASE-ARC-10009-1] c 15 N71-17822
- MICROWAVE RESONANCE**  
Dual resonant cavity absorption cell Patent  
[NASA-CASE-LAR-10305] c 14 N71-26137
- MICROWAVE SCATTERING**  
Almond test body --- for microwave anechoic chambers  
[NASA-CASE-LAR-13747-1] c 32 N88-24845
- MICROWAVE SWITCHING**  
Gyrator type circuit Patent  
[NASA-CASE-XAC-10608-1] c 09 N71-12517  
Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340
- MICROWAVE TRANSMISSION**  
Frequency translating phase conjugation circuit for active retrodirective antenna array --- microwave transmission  
[NASA-CASE-NPO-14536-1] c 32 N81-14185  
Waveguide cooling system  
[NASA-CASE-NPO-15401-1] c 32 N83-27085
- MICROWAVE TUBES**  
Electrostatic collector for charged particles  
[NASA-CASE-LEW-11192-1] c 09 N73-13208
- MICROWAVES**  
Parametric microwave noise generator Patent  
[NASA-CASE-XER-11019] c 09 N71-23598  
Method and apparatus for optical modulating a light signal Patent  
[NASA-CASE-GSC-10216-1] c 23 N71-26722  
Waveguide mixer  
[NASA-CASE-ERC-10179] c 07 N72-20141  
Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-MFS-21470-1] c 44 N74-19870  
Wide power range microwave feedback controller  
[NASA-CASE-GSC-12146-1] c 33 N78-32340  
Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287  
Doppler radar having phase modulation of both transmitted and reflected return signals  
[NASA-CASE-MSC-18675-1] c 32 N84-22820  
Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118  
Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234
- MIDAIR COLLISIONS**  
Apparatus for aiding a pilot in avoiding a midair collision between aircraft  
[NASA-CASE-LAR-10717-1] c 21 N73-30641
- MILLIMETER WAVES**  
Millimeter wave antenna system Patent Application  
[NASA-CASE-GSC-10949-1] c 07 N71-28965  
Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c 33 N74-32660
- MILLING (MACHINING)**  
Apparatus for machining geometric cones Patent  
[NASA-CASE-XMS-04292] c 15 N71-27222  
Method and tool for machining a transverse slot about a bore  
[NASA-CASE-LAR-11855-1] c 37 N81-14319  
Method for milling and drilling glass  
[NASA-CASE-GSC-12636-1] c 31 N83-27058
- MILLING MACHINES**  
Electro-optical alignment control system Patent  
[NASA-CASE-XMF-00908] c 14 N70-40238  
Portable milling tool Patent  
[NASA-CASE-XMF-03511] c 15 N71-22799  
Grinding arrangement for ball nose milling cutters  
[NASA-CASE-LAR-10450-1] c 37 N74-27905
- MINERAL DEPOSITS**  
Underground mineral extraction  
[NASA-CASE-NPO-14140-1] c 43 N81-26509
- MINERAL METABOLISM**  
Method and system for in vivo measurement of bone tissue using a two level energy source  
[NASA-CASE-MSC-14276-1] c 52 N77-14737
- MINES (EXCAVATIONS)**  
Mining volume measurement system  
[NASA-CASE-LAR-13519-1] c 35 N88-23963
- MINIATURE ELECTRONIC EQUIPMENT**  
Miniature stress transducer Patent  
[NASA-CASE-XNP-02983] c 14 N71-21091  
Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597  
Solid state television camera system Patent  
[NASA-CASE-XMF-06092] c 07 N71-24612  
Miniature ingestible telemeter devices to measure deep-body temperature  
[NASA-CASE-ARC-10583-1] c 52 N76-29894  
Miniature biaxial strain transducer  
[NASA-CASE-LAR-11648-1] c 35 N77-14407  
Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295
- MINIATURIZATION**  
Miniature vibration isolator Patent  
[NASA-CASE-XLA-01019] c 15 N70-40156  
Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897  
Miniature carbon dioxide sensor and methods  
[NASA-CASE-MSC-13332-1] c 14 N72-21408  
Magnetometer with a miniature transducer and automatic scanning  
[NASA-CASE-LAR-11617-2] c 35 N78-32397  
Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163  
Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288  
Miniature traveling wave tube and method of making  
[NASA-CASE-LEW-14520-1] c 33 N88-23936
- MINING**  
Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423  
Coal-shale interface detector  
[NASA-CASE-MFS-23720-1] c 43 N80-23711  
Underground mineral extraction  
[NASA-CASE-NPO-14140-1] c 43 N81-26509  
Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768  
Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722
- MINORITY CARRIERS**  
Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888
- MIRRORS**  
Pneumatic mirror support system  
[NASA-CASE-XLA-03271] c 11 N69-24321  
Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461  
Interferometer servo system Patent  
[NASA-CASE-NPO-10300] c 14 N71-17662  
Method and apparatus for stabilizing a gaseous optical maser Patent  
[NASA-CASE-XGS-03644] c 16 N71-18614  
Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868  
Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123  
Optical range finder having nonoverlapping complete images  
[NASA-CASE-MSC-12105-1] c 14 N72-21409  
Optical system support apparatus  
[NASA-CASE-XER-07896-2] c 23 N72-22673  
Strain gauge ambiguity sensor for segmented mirror active optical system  
[NASA-CASE-MFS-20506-1] c 35 N75-12273  
Method for manufacturing mirrors in zero gravity environment  
[NASA-CASE-MSC-12611-1] c 12 N76-15189  
Method of and means for testing a glancing-incidence mirror system of an X-ray telescope  
[NASA-CASE-MFS-22409-2] c 74 N78-15880  
Interferometer mirror tilt correcting system  
[NASA-CASE-NPO-13687-1] c 35 N78-18391  
Anastigmatic three-mirror telescope  
[NASA-CASE-MFS-23675-1] c 89 N79-10969  
Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248  
Spectral slicing X-ray telescope with variable magnification  
[NASA-CASE-MFS-25942-1] c 74 N86-20124  
Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732  
Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138  
Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843
- MIS (SEMICONDUCTORS)**  
Photocapacitive image converter  
[NASA-CASE-LAR-12513-1] c 44 N82-32841
- MISSILE CONTROL**  
Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c 32 N74-20864
- MISSILE LAUNCHERS**  
Missile launch release system Patent  
[NASA-CASE-XMF-03198] c 30 N70-40353  
Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175  
Controlled release device Patent  
[NASA-CASE-XKS-03338] c 15 N71-24043
- MISSILE STRUCTURES**  
Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231
- MISSILES**  
Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168  
Fire protection covering for small diameter missiles  
[NASA-CASE-ARC-11104-1] c 15 N79-26100
- MITOSIS**  
Process for control of cell division  
[NASA-CASE-LAR-10773-3] c 51 N77-25769
- MIXERS**  
Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067  
Planar oscillatory stirring apparatus  
[NASA-CASE-MFS-26002-1-CU] c 35 N86-26598  
Remotely controllable mixing system  
[NASA-CASE-MFS-28153-1] c 31 N86-32589  
Dual-fuel, dual-mode rocket engine  
[NASA-CASE-LAR-13773-1] c 20 N88-24685
- MIXING**  
Remotely controllable mixing system  
[NASA-CASE-MFS-28153-1] c 31 N86-32589
- MIXING CIRCUITS**  
Varactor high level mixer  
[NASA-CASE-XGS-02171] c 09 N69-24324  
Waveguide mixer  
[NASA-CASE-ERC-10179] c 07 N72-20141
- MIXTURES**  
Low gravity phase separator  
[NASA-CASE-MSC-14773-1] c 35 N78-12390  
Process for producing tris (n-methylamino) methylsilane  
[NASA-CASE-MFS-25721-1] c 25 N85-21280
- MOBILE COMMUNICATION SYSTEMS**  
Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390
- MOBILITY**  
Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251  
Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217  
Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118
- MODE TRANSFORMERS**  
Transient-compensated SCR inverter  
[NASA-CASE-XLA-08507] c 09 N69-39984  
Dual waveguide mode source having control means for adjusting the relative amplitude of two modes Patent  
[NASA-CASE-XNP-03134] c 07 N71-10676  
Direct current transformer  
[NASA-CASE-MFS-23659-1] c 33 N79-17133
- MODEMS**  
Charge storage diode modulators and demodulators  
[NASA-CASE-NPO-10189-1] c 33 N77-21314
- MODES (STANDING WAVES)**  
Acoustic levitation methods and apparatus  
[NASA-CASE-NPO-15562-1] c 71 N82-27086
- MODULATION**  
Demodulator for carrier transducers  
[NASA-CASE-NUC-10107-1] c 33 N74-17930  
Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15381  
Air modulation apparatus  
[NASA-CASE-LEW-13524-1] c 07 N84-33410  
Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374  
Doppler radar with multiphase modulation of transmitted and reflected signal  
[NASA-CASE-MSC-18808-1] c 32 N88-23923
- MODULATORS**  
Retrodirective optical system  
[NASA-CASE-XGS-04480] c 16 N69-27491  
Retrodirective modulator Patent  
[NASA-CASE-GSC-10062] c 14 N71-15605  
Laser calibrator Patent  
[NASA-CASE-XLA-03410] c 16 N71-25914

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- Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c 33 N74-14939
- Charge storage diode modulators and demodulators  
[NASA-CASE-NPO-10189-1] c 33 N77-21314
- Coherently pulsed laser source  
[NASA-CASE-NPO-15111-1] c 36 N82-29589
- Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546
- Solar energy modulator  
[NASA-CASE-NPO-15388-1] c 44 N84-28203
- MODULES**
- Modular encoder  
[NASA-CASE-NPO-10629] c 08 N72-18184
- Solar cell module assembly jig  
[NASA-CASE-XGS-00829-1] c 44 N79-19447
- Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550
- Shuttle-launch triangular space station  
[NASA-CASE-MS-C-20676-1] c 18 N86-24729
- MODULUS OF ELASTICITY**
- Glass compositions with a high modulus of elasticity --- nontoxic glass fibers  
[NASA-CASE-HQN-10274-1] c 27 N82-20451
- High modulus invert analog glass compositions containing beryllia  
[NASA-CASE-HQN-10931-2] c 27 N82-29452
- Non-toxic invert analog glass compositions of high modulus  
[NASA-CASE-HQN-10328-2] c 27 N82-29454
- High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455
- High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436
- MOISTURE**
- Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080
- Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212
- MOISTURE CONTENT**
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484
- Moisture content and gas sampling device  
[NASA-CASE-MS-C-18866-1] c 35 N85-29213
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373
- MOISTURE METERS**
- Method of evaluating moisture barrier properties of encapsulating materials Patent  
[NASA-CASE-NPO-10051] c 18 N71-24934
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373
- MOISTURE RESISTANCE**
- Process for improving moisture resistance of epoxy resins by addition of chromium ions  
[NASA-CASE-LAR-13226-1] c 27 N85-34282
- MOLDING MATERIALS**
- Method for molding compounds Patent  
[NASA-CASE-XLA-01091] c 15 N71-10672
- Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986
- Hydraulic casting of liquid polymers Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975
- Hydroforming techniques using epoxy molds Patent  
[NASA-CASE-XLE-05641-1] c 15 N71-26346
- Molding process for imidazopyrrolone polymers  
[NASA-CASE-LAR-10547-1] c 31 N74-13177
- Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c 31 N74-14133
- Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275
- Method of making a rocket nozzle  
[NASA-CASE-XMF-06884-1] c 20 N79-21123
- MOLDS**
- Apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917-2] c 15 N71-24836
- Technique of duplicating fragile core  
[NASA-CASE-XLA-07829] c 15 N72-16329
- Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c 31 N74-14133
- Molding apparatus --- for thermosetting plastic compositions  
[NASA-CASE-LAR-10489-2] c 31 N74-32920
- Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c 31 N75-13111

- Method of making an apertured casting --- using duplicate mold  
[NASA-CASE-LEW-11169-1] c 37 N76-23570
- MOLECULAR BEAMS**
- Molecular beam velocity selector Patent  
[NASA-CASE-XLE-01533] c 11 N71-10777
- Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c 20 N74-31269
- MOLECULAR CHAINS**
- Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104
- Novel ladder polymers for use as high temperature stable resins or coatings  
[NASA-CASE-LEW-14203-1] c 27 N88-29984
- MOLECULAR GASES**
- Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c 35 N74-15127
- MOLECULAR PUMPS**
- Omni-directional anisotropic molecular trap Patent  
[NASA-CASE-XGS-00783] c 30 N71-17788
- Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294
- MOLECULAR RELAXATION**
- Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes in utilizing the transient thermal lens effect  
[NASA-CASE-NPO-14657-1] c 74 N81-17887
- MOLECULAR ROTATION**
- Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426
- MOLECULAR SPECTRA**
- Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705
- MOLECULAR SPECTROSCOPY**
- Dual resonant cavity absorption cell Patent  
[NASA-CASE-LAR-10305] c 14 N71-26137
- MOLECULAR WEIGHT**
- Process of end-capping a polyimide system  
[NASA-CASE-LAR-13135-1] c 27 N86-19456
- Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848
- MOLECULES**
- Stabilization of He<sub>2</sub>(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826
- MOLTEN SALT ELECTROLYTES**
- Combined electrolysis device and fuel cell and method of operation Patent  
[NASA-CASE-XLE-01645] c 03 N71-20904
- Zinc-halide battery with molten electrolyte  
[NASA-CASE-NPO-11961-1] c 44 N76-18643
- MOLTEN SALTS**
- Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261
- MOLYBDENUM**
- Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346
- MOLYBDENUM CARBIDES**
- Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00302] c 15 N71-16077
- MOLYBDENUM DISULFIDES**
- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103
- MOMENTS OF INERTIA**
- Moment of inertia test fixture Patent  
[NASA-CASE-XGS-01023] c 14 N71-22992
- MOMENTUM**
- Attitude control and damping system for spacecraft Patent  
[NASA-CASE-XLA-02551] c 21 N71-21708
- Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c 14 N71-22990
- MONATOMIC GASES**
- Atomic hydrogen storage --- cryotrapping and magnetic field strength  
[NASA-CASE-LEW-12081-2] c 28 N80-20402
- MONITORS**
- Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573
- Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026
- Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175
- Peak polarity selector Patent  
[NASA-CASE-FRC-10010] c 10 N71-24862
- Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225

- Droplet monitoring probe  
[NASA-CASE-NPO-10985] c 14 N73-20478
- Automatic lightning detection and photographic system  
[NASA-CASE-KSC-10728-1] c 14 N73-32319
- Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c 74 N74-21304
- Remote lightning monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315
- Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193
- Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698
- Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272
- Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139
- Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117
- Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266
- Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862
- Welding monitoring system  
[NASA-CASE-MFS-29177-1] c 37 N88-14362
- Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N88-23924
- Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621
- Radio Frequency (RF) strain monitor  
[NASA-CASE-LAR-13705-1] c 39 N88-25011
- MONOCHROMATIC RADIATION**
- Continuous plasma light source  
[NASA-CASE-XNP-04167-2] c 25 N72-24753
- Laser extensometer  
[NASA-CASE-MFS-19259-1] c 36 N78-14380
- Multiprism collimator  
[NASA-CASE-GSC-12608-1] c 74 N83-10900
- MONOCHROMATORS**
- Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c 06 N71-13461
- Color television system  
[NASA-CASE-MS-C-12146-1] c 07 N72-17109
- MONOMERS**
- Pressure transducer --- using a monomeric charge transfer complex sensor  
[NASA-CASE-NPO-11150] c 35 N78-17359
- Bifunctional monomers having terminal oxime and cyano or amide groups  
[NASA-CASE-ARC-11253-3] c 27 N81-24256
- Cross-linked polyvinyl alcohol and method of making same  
[NASA-CASE-LEW-13101-2] c 23 N81-29160
- Preparation of crosslinked 1,2,4-oxadiazole polymer  
[NASA-CASE-ARC-11253-2] c 27 N82-24338
- Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854
- Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-1] c 27 N84-27885
- Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727
- New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433
- Ethynyl terminated ester oligomers and polymers therefrom  
[NASA-CASE-LAR-13118-2] c 27 N87-16907
- Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404
- Polyphenylquinoxalines containing alkylendioxy groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337
- MONOPOLE ANTENNAS**
- Antenna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase Patent  
[NASA-CASE-XLA-00414] c 07 N70-38200
- Flexible blade antenna Patent  
[NASA-CASE-MS-C-12101] c 09 N71-18720
- MONOPROPELLANTS**
- Ignition system for monopropellant combustion devices Patent  
[NASA-CASE-XNP-00249] c 28 N70-38249

- Ignition means for monopropellant Patent  
[NASA-CASE-XNP-00876] c 28 N70-41311
- Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314
- MONOPULSE ANTENNAS**
- Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460
- Low noise single aperture multimode monopulse antenna feed system Patent  
[NASA-CASE-XNP-01735] c 07 N71-22750
- Electronic scanning of 2-channel monopulse patterns Patent  
[NASA-CASE-GSC-10299-1] c 09 N71-24804
- Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472
- MONOPULSE RADAR**
- Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864
- Monopulse tracking system Patent  
[NASA-CASE-XGS-01155] c 10 N71-21483
- MONOSTABLE MULTIVIBRATORS**
- Resettable monostable pulse generator Patent  
[NASA-CASE-GSC-11139] c 09 N71-27016
- Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MS-13492-1] c 10 N71-28860
- MORPHOLOGY**
- Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800
- MOSSBAUER EFFECT**
- Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c 35 N74-15091
- Method and apparatus for vibration analysis utilizing the Mossbauer effect  
[NASA-CASE-XMF-05882] c 35 N75-27329
- MOTION**
- Quick attach mechanism Patent  
[NASA-CASE-XFR-05421] c 15 N71-22994
- MOTION PICTURES**
- Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c 35 N74-17153
- Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MFS-22537-1] c 35 N75-27328
- MOTION SIMULATORS**
- Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c 09 N75-15662
- Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806
- MOTION STABILITY**
- Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658
- MOTORS**
- Nonmagnetic thermal motor for a magnetometer  
[NASA-CASE-XAR-03786] c 09 N69-21313
- System for maintaining a motor at a predetermined speed utilizing digital feedback means Patent  
[NASA-CASE-XMF-06892] c 09 N71-24805
- Mechanical thermal motor  
[NASA-CASE-MFS-23062-1] c 37 N77-12402
- Redundant motor drive system  
[NASA-CASE-MFS-23777-1] c 37 N80-32716
- A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864
- MOUNTING**
- Thermobulb mount Patent  
[NASA-CASE-NPO-10158] c 33 N71-16356
- Mount for thermal control system Patent  
[NASA-CASE-NPO-10138] c 33 N71-16357
- Clamping assembly for inertial components Patent  
[NASA-CASE-XMS-02184] c 15 N71-20813
- Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c 10 N73-25243
- Lubricated journal bearing  
[NASA-CASE-LEW-11076-3] c 37 N75-30562
- Translatory shock absorber for attitude sensors  
[NASA-CASE-MFS-22905-1] c 19 N76-22284
- Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500
- Impact absorbing blade mounts for variable pitch blades  
[NASA-CASE-LEW-12313-1] c 37 N78-10468
- Attaching of strain gages to substrates  
[NASA-CASE-FRC-10093-1] c 35 N80-20560
- Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975
- Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443
- Clamp-mount device  
[NASA-CASE-MFS-25510-1] c 37 N84-16560
- Model mount system for testing flutter  
[NASA-CASE-LAR-12950-1] c 09 N84-34448
- Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982
- Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334
- Almond test body --- for microwave anechoic chambers  
[NASA-CASE-LAR-13747-1] c 32 N88-24845
- Thermal compensating mount  
[NASA-CASE-LAR-13794-1] c 35 N88-24942
- MOVING TARGET INDICATORS**
- Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c 32 N74-12912
- Interferometric locating system  
[NASA-CASE-NPO-14173-1] c 04 N80-32359
- MULTIBEAM ANTENNAS**
- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918
- Switched steerable multiple beam antenna system  
[NASA-CASE-MS-20873-1-SB] c 32 N89-11961
- MULTICHANNEL COMMUNICATION**
- Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420
- Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763
- Receiver with an improved phase lock loop in a multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c 07 N73-28012
- Miniature multichannel biotelemetry system  
[NASA-CASE-NPO-13065-1] c 52 N74-26625
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MS-14180-1] c 52 N76-14757
- Multi-channel rotating optical interface for data transmission  
[NASA-CASE-NPO-14066-1] c 74 N79-34011
- MULTILAYER INSULATION**
- Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022
- Panelized high performance multilayer insulation Patent  
[NASA-CASE-MFS-14023] c 33 N71-25351
- Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186
- Method of making an insulation foil  
[NASA-CASE-LEW-11484-1] c 24 N75-33181
- Multilayer thermal protection system  
[NASA-CASE-LAR-12620-1] c 24 N82-32417
- MULTIPACTOR DISCHARGES**
- High power RF coaxial switch  
[NASA-CASE-NPO-14229-1] c 33 N80-18285
- MULTIPATH TRANSMISSION**
- Anti-multipath digital signal detector  
[NASA-CASE-LAR-11827-1] c 32 N77-10392
- Large volume multiple-path nuclear pumped laser  
[NASA-CASE-LAR-12592-1] c 36 N82-13415
- MULTIPLE BEAM INTERVAL SCANNERS**
- Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854
- Variable beamwidth antenna --- with multiple beam, variable feed system  
[NASA-CASE-GSC-11862-1] c 32 N76-18295
- MULTIPLE DOCKING ADAPTERS**
- Expanding center probe and drogue Patent  
[NASA-CASE-XMS-03613] c 31 N71-16346
- MULTIPLE OUTPUT PROGRAMS**
- Multi-computer multiple data path hardware exchange system  
[NASA-CASE-NPO-13422-1] c 60 N76-14818
- MULTIPLEXING**
- Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978
- Elimination of frequency shift in a multiplex communication system Patent  
[NASA-CASE-XNP-01306] c 07 N71-20814
- Satellite interlace synchronization system  
[NASA-CASE-GSC-10390-1] c 07 N72-11149
- Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171
- Data multiplexer using tree switching configuration  
[NASA-CASE-NPO-11333] c 08 N72-22162
- Television multiplexing system  
[NASA-CASE-KSC-10654-1] c 07 N73-30115
- Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c 32 N75-26195
- Correlation type phase detector --- with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c 33 N75-26243
- System for producing chroma signals  
[NASA-CASE-MS-14683-1] c 74 N77-18893
- Fiber optic multiplex optical transmission system  
[NASA-CASE-KSC-11047-1] c 74 N78-14889
- System for a displaying at a remote station data generated at a central station and for powering the remote station from the central station  
[NASA-CASE-GSC-12411-1] c 33 N81-14221
- Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278
- High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814
- Multi-channel temperature measurement amplification system --- solar heating systems  
[NASA-CASE-MFS-23775-1] c 44 N82-16474
- Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590
- Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705
- Adaptive data acquisition multiplexing system and method  
[NASA-CASE-MS-21170-1] c 17 N88-24662
- Laser Doppler velocimeter multiplexer interface for simultaneous measured events  
[NASA-CASE-ARC-11536-1] c 33 N89-14384
- MULTIPLIERS**
- Pulse-width modulation multiplier Patent  
[NASA-CASE-XER-09213] c 07 N71-12390
- Variable pulse width multiplier Patent  
[NASA-CASE-XLA-02850] c 09 N71-20447
- Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c 33 N74-32712
- Regulated high efficiency, lightweight capacitor-diode multiplier dc to dc converter  
[NASA-CASE-LEW-12791-1] c 33 N78-32341
- MULTISPECTRAL BAND SCANNERS**
- Optical process for producing classification maps from multispectral data  
[NASA-CASE-MS-14472-1] c 43 N77-10584
- Interactive color display for multispectral imagery using correlation clustering  
[NASA-CASE-MS-16253-1] c 32 N79-20297
- Multispectral scanner optical system  
[NASA-CASE-MS-18255-1] c 74 N80-33210
- Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783
- Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248
- MULTISPECTRAL LINEAR ARRAYS**
- Time delay and integration detectors using charge transfer devices  
[NASA-CASE-GSC-12324-1] c 33 N81-33403
- Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650
- MULTISPECTRAL PHOTOGRAPHY**
- Multispectral imaging system  
[NASA-CASE-MS-12404-1] c 23 N73-13661
- Optical process for producing classification maps from multispectral data  
[NASA-CASE-MS-14472-1] c 43 N77-10584
- Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288
- Interactive color display for multispectral imagery using correlation clustering  
[NASA-CASE-MS-16253-1] c 32 N79-20297
- MULTISPECTRAL TRACKING TELESCOPES**
- Multispectral glancing incidence X-ray telescope  
[NASA-CASE-MFS-28013-1] c 89 N86-22459
- MULTISTAGE ROCKET VEHICLES**
- Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176
- Steerable solid propellant rocket motor Patent  
[NASA-CASE-XNP-00234] c 28 N70-38645
- Multi-mission module Patent  
[NASA-CASE-XMF-01543] c 31 N71-17730
- Single action separation mechanism Patent  
[NASA-CASE-XLA-00188] c 15 N71-22874
- Lateral displacement system for separated rocket stages Patent  
[NASA-CASE-XLA-04804] c 31 N71-23008
- Frangible link  
[NASA-CASE-MS-11849-1] c 15 N72-22488
- Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25676-1] c 10 N84-27797
- MULTIVIBRATORS**
- Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34819
- Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00458] c 09 N70-38604
- Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00131] c 09 N70-38995

# MUSCLES

- High efficiency multivibrator Patent  
[NASA-CASE-XAC-00942] c 10 N71-16042
- A dc-coupled noninverting one-shot Patent  
[NASA-CASE-XNP-09450] c 10 N71-18723
- Multivibrator circuit with means to prevent false triggering from supply voltage fluctuations Patent  
[NASA-CASE-ARC-10137-1] c 09 N71-28468
- Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570
- MUSCLES**
- Subminiature insertable force transducer --- including a strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329
- Multifunctional transducer  
[NASA-CASE-NPO-14329-1] c 52 N81-20703
- MUSCULAR FUNCTION**
- Miniature muscle displacement transducer  
[NASA-CASE-NPO-13519-1] c 33 N76-19338
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- MUSCULOSKELETAL SYSTEM**
- Skeletal stressing method and apparatus Patent  
[NASA-CASE-ARC-10100-1] c 05 N71-24738
- MYOCARDIUM**
- Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c 52 N76-29895
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- MYOPIA**
- Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-1] c 09 N84-12193

# N

- N-TYPE SEMICONDUCTORS**
- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321
- NACELLES**
- Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788
- Nacelle afterbody for jet engines Patent  
[NASA-CASE-XLA-10450] c 28 N71-21493
- Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-2] c 07 N78-18066
- Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-3] c 07 N79-14096
- NASA PROGRAMS**
- Retractable environmental seal  
[NASA-CASE-MFS-23646-1] c 37 N79-22474
- NAVIGATION**
- Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288
- NAVIGATION AIDS**
- Magnetic heading reference  
[NASA-CASE-LAR-11387-1] c 04 N76-20114
- Ruler for making navigational computations  
[NASA-CASE-XNP-01458] c 04 N78-17031
- System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075
- Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132
- Low-frequency radio navigation system  
[NASA-CASE-NPO-15264-1] c 04 N84-27713
- NAVIGATION INSTRUMENTS**
- Sun angle calculator  
[NASA-CASE-MSC-12617-1] c 35 N76-29552
- NAVIGATION SATELLITES**
- Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948
- NEAR INFRARED RADIATION**
- Collimator of multiple plates with axially aligned identical random arrays of apertures  
[NASA-CASE-MFS-20546-2] c 14 N73-30389
- NEGATIVE FEEDBACK**
- Complementary regenerative switch Patent  
[NASA-CASE-XGS-02751] c 09 N71-23015
- Solid-state current transformer  
[NASA-CASE-MFS-22560-1] c 33 N77-14335
- NEGATIVE IONS**
- Generation of intense negative ion beams  
[NASA-CASE-NPO-16061-1-CU] c 72 N87-21660
- NEODYMIUM LASERS**
- Length controlled stabilized mode-lock ND:YAG laser  
[NASA-CASE-GSC-11571-1] c 36 N77-25499
- NERVES**
- Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-29863

- NETWORK SYNTHESIS**
- Electromagnetic polarization systems and methods Patent  
[NASA-CASE-GSC-10021-1] c 09 N71-24595
- High speed phase detector Patent  
[NASA-CASE-XNP-01306-2] c 09 N71-24596
- Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421
- NEURAL NETS**
- Hybrid analog-digital associative neural network  
[NASA-CASE-NPO-17058-1-CU] c 62 N87-25803
- NEUROGLIA**
- Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738
- NEUROLOGY**
- Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-29863
- NEUTRALIZERS**
- Method and apparatus for neutralizing potentials induced on spacecraft surfaces  
[NASA-CASE-GSC-11963-1] c 33 N77-10429
- Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039
- NEUTRON EMISSION**
- Deuterium pass through target --- neutron emitting target  
[NASA-CASE-LEW-11866-1] c 72 N76-15860
- NICKEL**
- Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142
- Selective nickel deposition  
[NASA-CASE-LEW-10965-1] c 15 N72-25452
- Brazing alloy composition  
[NASA-CASE-XMF-06053] c 26 N75-27126
- Method of making reinforced composite structure  
[NASA-CASE-LEW-12619-1] c 24 N77-19171
- Directionally solidified eutectic gamma-gamma nickel-base superalloys  
[NASA-CASE-LEW-12905-1] c 26 N78-18183
- Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734
- Metal (2) 4,4',4'' phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267
- NICKEL ALLOYS**
- High temperature nickel-base alloy Patent  
[NASA-CASE-XLE-00151] c 17 N70-33283
- Nickel-base alloy Patent  
[NASA-CASE-XLE-00283] c 17 N70-36616
- Nickel-base alloy containing Mo-W-Al-Cr-Ta-Zr-C-Nb-B Patent  
[NASA-CASE-XLE-02082] c 17 N71-16026
- Nickel base alloy  
[NASA-CASE-LEW-10874-1] c 17 N72-22535
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c 37 N74-21055
- Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236
- Zirconium modified nickel-copper alloy  
[NASA-CASE-LEW-12245-1] c 26 N77-20201
- Directionally solidified eutectic gamma plus beta nickel-base superalloys  
[NASA-CASE-LEW-12906-1] c 26 N77-32279
- Nickel base alloy --- for gas turbine engine stator vanes  
[NASA-CASE-LEW-12270-1] c 26 N77-32280
- Nickel ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505
- Nickel base coating alloy  
[NASA-CASE-LEW-13834-1] c 26 N87-14482
- Heat treatment for superalloy  
[NASA-CASE-LEW-14262-1] c 26 N87-28647
- NICKEL CADMIUM BATTERIES**
- Heat flow calorimeter --- measures output of Ni-Cd batteries  
[NASA-CASE-GSC-11434-1] c 34 N74-27859
- Method and apparatus for conditioning of nickel-cadmium batteries  
[NASA-CASE-MFS-23270-1] c 44 N78-25531
- NICKEL COATINGS**
- Nickel aluminide coated low alloy stainless steel  
[NASA-CASE-LEW-11267-1] c 17 N73-32414
- Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599
- NICKEL COMPOUNDS**
- Didymium hydrate additive to nickel hydroxide electrodes Patent  
[NASA-CASE-XGS-03505] c 03 N71-10608

- Brazing alloy  
[NASA-CASE-XNP-03878] c 26 N75-27127
- NICKEL HYDROGEN BATTERIES**
- Oxygen recombination in individual pressure vessel nickel-hydrogen batteries  
[NASA-CASE-LEW-13822-1] c 44 N86-25874
- NICKEL PLATE**
- Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c 17 N71-24830
- NICKEL ZINC BATTERIES**
- Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422
- NIOBIUM**
- Trialkyl-dihalotantalum and niobium compounds Patent  
[NASA-CASE-XNP-04023] c 06 N71-28808
- NIOBIUM COMPOUNDS**
- Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543
- NITRAMINE PROPELLANTS**
- Nitramine propellants --- gun propellant burning rate  
[NASA-CASE-NPO-14103-1] c 28 N78-31255
- NITRIC OXIDE**
- Reduction of nitric oxide emissions from a combustor  
[NASA-CASE-ARC-10814-2] c 07 N80-26298
- NITRIDES**
- Refractory coatings and method of producing the same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415
- Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543
- NITRIDING**
- Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179
- NITRILES**
- Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c 18 N73-13562
- Trimerization of aromatic nitriles  
[NASA-CASE-LEW-12053-1] c 27 N78-15276
- Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112
- NITRO COMPOUNDS**
- Intumescent coatings containing 4,4'-dinitrosulfonilide  
[NASA-CASE-ARC-11042-1] c 24 N78-14096
- NITROAMINES**
- Intumescent paints Patent  
[NASA-CASE-ARC-10099-1] c 18 N71-15469
- Polymeric vehicles as carriers for sulfonic acid salt of nitrosubstituted aromatic amines  
[NASA-CASE-ARC-10325] c 06 N72-25147
- NITROGEN**
- III-V photocathode with nitrogen doping for increased quantum efficiency  
[NASA-CASE-NPO-12134-1] c 33 N76-31409
- NITROGEN COMPOUNDS**
- Method for preparing addition type polyimide prepreps  
[NASA-CASE-LAR-12054-2] c 27 N81-14078
- NITROGEN OXIDES**
- Combustion engine --- for air pollution control  
[NASA-CASE-NPO-13671-1] c 37 N77-31497
- Combustor --- low nitrogen oxide formation  
[NASA-CASE-NPO-13958-1] c 25 N79-11151
- NITROGEN TETROXIDE**
- Procedure and apparatus for determination of water in nitrogen tetroxide  
[NASA-CASE-NPO-10234] c 06 N72-17094
- NITROGUANIDINE**
- Hydrazinium nitroformate propellant stabilized with nitroguanidine  
[NASA-CASE-NPO-12000] c 27 N72-25699
- NOBLE METALS**
- GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150
- NODES (STANDING WAVES)**
- System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516
- NOISE GENERATORS**
- Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MFS-22671-1] c 35 N75-21582
- Method of and means for testing a tape record/playback system  
[NASA-CASE-MFS-22671-2] c 35 N77-17426
- Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575
- NOISE METERS**
- Instrumentation for measurement of aircraft noise and sonic boom  
[NASA-CASE-LAR-11173-1] c 35 N75-19614
- Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867

- Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445
- NOISE REDUCTION**  
Jet aircraft configuration Patent  
[NASA-CASE-XLA-00087] c 02 N70-33332  
Casseggrain antenna subreflector flange for suppressing ground noise Patent  
[NASA-CASE-XNP-00683] c 09 N70-35425  
Device for suppressing sound and heat produced by high-velocity exhaust jets Patent  
[NASA-CASE-XMF-01813] c 28 N70-41582  
Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964  
Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23001  
Audio signal processor Patent  
[NASA-CASE-MSC-12223-1] c 07 N71-26181  
Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266  
Method and apparatus for eliminating coherent noise in a coherent energy imaging system without destroying spatial coherence  
[NASA-CASE-GSC-11133-1] c 23 N72-11568  
Audio system with means for reducing noise effects  
[NASA-CASE-NPO-11631] c 10 N73-12244  
Gas turbine exhaust nozzle --- for noise reduction  
[NASA-CASE-LEW-11569-1] c 07 N74-15453  
Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c 37 N74-21057  
Jet exhaust noise suppressor  
[NASA-CASE-LEW-11286-1] c 07 N74-27490  
Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c 07 N74-28226  
Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270  
Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418  
Abating exhaust noises in jet engines  
[NASA-CASE-ARC-10712-1] c 07 N74-33218  
Television noise reduction device  
[NASA-CASE-MSC-12607-1] c 32 N75-21485  
Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117  
Apparatus for reducing aerodynamic noise in a wind tunnel  
[NASA-CASE-MFS-23099-1] c 09 N76-23273  
Optical noise suppression device and method --- laser light exposing film  
[NASA-CASE-MSC-12640-1] c 74 N76-31998  
Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055  
Magneto-optic detection system with noise cancellation  
[NASA-CASE-NPO-11954-1] c 35 N78-29421  
Totally confined explosive welding  
[NASA-CASE-LAR-10941-2] c 37 N79-13364  
Sound-suppressing structure with thermal relief  
[NASA-CASE-LEW-12658-1] c 71 N79-14871  
Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107  
Support assembly for cryogenically coolable low-noise choke waveguide  
[NASA-CASE-NPO-14253-1] c 32 N80-32605  
Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999  
Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800  
Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235  
Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884  
Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873  
Phase sensitive guidance sensor for wire-following vehicles  
[NASA-CASE-NPO-15341-1] c 35 N84-33769  
Comparator with noise suppression  
[NASA-CASE-LAR-13151-1] c 33 N87-21235
- NOISE TEMPERATURE**  
Method and means for providing an absolute power measurement capability Patent  
[NASA-CASE-ERC-11020] c 14 N71-26774
- NOISE THRESHOLD**  
Frequency modulation demodulator threshold extension device Patent  
[NASA-CASE-MSC-12165-1] c 07 N71-33696
- NONADIABATIC CONDITIONS**  
Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c 34 N78-27357
- NONDESTRUCTIVE TESTS**  
Determination of spot weld quality Patent  
[NASA-CASE-XNP-02588] c 15 N71-18613  
Space simulator Patent  
[NASA-CASE-NPO-10141] c 11 N71-24964  
Apparatus for inspecting microfilm Patent  
[NASA-CASE-MFS-20240] c 14 N71-26788  
Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170  
Method and device for detecting voids in low density material Patent  
[NASA-CASE-MFS-20044] c 14 N71-28993  
Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c 35 N75-25124  
Method and apparatus for nondestructive testing of pressure vessels  
[NASA-CASE-NPO-12142-1] c 38 N76-28563  
Non-destructive method for applying and removing instrumentation on helicopter rotor blades  
[NASA-CASE-LAR-11201-1] c 35 N78-24515  
Hybrid holographic non-destructive test system  
[NASA-CASE-MFS-23114-1] c 38 N78-32447  
Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126  
Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279  
Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276  
Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894  
Acoustic emission frequency discrimination  
[NASA-CASE-MSC-20467-1] c 35 N88-23966  
Method of radiographic inspection of wooden members  
[NASA-CASE-LAR-13724-1] c 38 N88-23983  
Method and apparatus for non-destructive testing of temper embrittlement in steels  
[NASA-CASE-LAR-13817-1] c 26 N88-29012
- NONEQUILIBRIUM CONDITIONS**  
Condition sensor system and method  
[NASA-CASE-MSC-14805-1] c 54 N78-32720
- NONEQUILIBRIUM PLASMAS**  
Probes having ring and primary sensor at same potential to prevent collection of stray wall currents in ionized gases  
[NASA-CASE-XLE-00690] c 25 N69-39884
- NONEQUILIBRIUM RADIATION**  
Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920
- NONFLAMMABLE MATERIALS**  
Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c 18 N73-13562  
Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MSC-14331-1] c 27 N76-24405
- NONLINEAR FEEDBACK**  
Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c 32 N74-30523  
Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c 33 N76-14373
- NONLINEAR FILTERS**  
Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493
- NONLINEAR SYSTEMS**  
Phase detector assembly Patent  
[NASA-CASE-XMF-00701] c 09 N70-40272  
Nonlinear analog-to-digital converter Patent  
[NASA-CASE-XAC-04031] c 08 N71-18594  
Split range transducer  
[NASA-CASE-XLA-11189] c 10 N72-20222  
Contour measurement system  
[NASA-CASE-MFS-23726-1] c 43 N79-26439
- NORMAL DENSITY FUNCTIONS**  
Ultrasonic transducer with Gaussian radial pressure distribution  
[NASA-CASE-LAR-12967-1] c 35 N84-22932
- NOSE CONES**  
Automatically deploying nozzle exit cone extension Patent  
[NASA-CASE-XLE-01640] c 31 N71-15637  
Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984
- NOSE WHEELS**  
Nose gear steering system for vehicle with main skids Patent  
[NASA-CASE-XLA-01804] c 02 N70-34160
- NOTCH STRENGTH**  
Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583
- NOTCH TESTS**  
Vee-notching device --- with adjustable carriage  
[NASA-CASE-MFS-20730-1] c 39 N74-13131  
Notch filter  
[NASA-CASE-MFS-23303-1] c 32 N77-18307
- NOTCHES**  
Notch filter  
[NASA-CASE-MFS-23303-1] c 32 N77-18307
- NOZZLE DESIGN**  
Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c 28 N70-33284  
Penshape exhaust nozzle for supersonic engine Patent  
[NASA-CASE-XLE-00057] c 28 N70-38711  
Telescoping-spike supersonic inlet for aircraft engines Patent  
[NASA-CASE-XLE-00005] c 28 N70-39899  
Automatically deploying nozzle exit cone extension Patent  
[NASA-CASE-XLE-01640] c 31 N71-15637  
Injector assembly for liquid fueled rocket engines Patent  
[NASA-CASE-XMF-00968] c 28 N71-15660  
Collapsible nozzle extension for rocket engines Patent  
[NASA-CASE-MFS-11497] c 28 N71-16224  
Gas turbine combustion apparatus Patent  
[NASA-CASE-XLE-103477-1] c 28 N71-20330  
Prestressed refractory structure Patent  
[NASA-CASE-XNP-02888] c 18 N71-21068  
Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c 31 N74-23065  
Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055  
Variable area exhaust nozzle  
[NASA-CASE-LEW-12378-1] c 07 N79-14097  
Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392  
Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371  
Controlled overspray spray nozzle  
[NASA-CASE-MFS-25139-1] c 34 N82-13376
- NOZZLE FLOW**  
Control system for rocket vehicles Patent  
[NASA-CASE-XLA-01163] c 21 N71-15582  
Aerodynamic spike nozzle Patent  
[NASA-CASE-XGS-01143] c 31 N71-15647  
Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339  
Tertiary flow injection thrust vectoring system Patent  
[NASA-CASE-MFS-20831] c 28 N71-29153  
Multi-purpose wind tunnel reaction control model block  
[NASA-CASE-MSC-19706-1] c 09 N78-31129
- NOZZLE GEOMETRY**  
Method of making a rocket nozzle  
[NASA-CASE-XMF-06884-1] c 20 N79-21123  
Nozzle fabrication technique  
[NASA-CASE-MSC-21299-1] c 20 N88-24684
- NOZZLE INSERTS**  
Self-sealing, unbonded, rocket motor nozzle closure Patent  
[NASA-CASE-XLA-02651] c 28 N70-41967  
Wind tunnel supplementary Mach number minimum section insert  
[NASA-CASE-LAR-12532-1] c 09 N82-11088
- NUCLEAR EXPLOSION EFFECT**  
Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c 33 N71-28852
- NUCLEAR FUEL ELEMENTS**  
Nuclear fuel elements  
[NASA-CASE-XLE-00209] c 22 N73-32528
- NUCLEAR MAGNETIC RESONANCE**  
Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266
- NUCLEAR POWER PLANTS**  
Self-adjusting multisegmented, deployable, natural circulation radiator Patent  
[NASA-CASE-XHQ-03673] c 33 N71-29046
- NUCLEAR PUMPED LASERS**  
Volumetric direct nuclear pumped laser  
[NASA-CASE-LAR-12183-1] c 36 N79-18307
- NUCLEAR PUMPING**  
Large volume multiple-path nuclear pumped laser  
[NASA-CASE-LAR-12592-1] c 36 N82-13415



## NUCLEAR REACTOR CONTROL

- Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20597  
Control for nuclear thermionic power source  
[NASA-CASE-NPO-13114-2] c 73 N78-28913

## NUCLEAR REACTORS

- Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891  
High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12950-2] c 34 N85-29179  
Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182

## NUCLEATE BOILING

- Method of improving heat transfer characteristics in a nucleate boiling process Patent  
[NASA-CASE-XMS-04268] c 33 N71-16277

## NUCLEOPHILES

- Polyphenylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814

## NULL ZONES

- Null device for hand controller Patent  
[NASA-CASE-XLA-01806] c 15 N71-20740

## NUMBER THEORY

- Binary concatenated coding system  
[NASA-CASE-MSC-14082-1] c 60 N76-23850

## NUMERICAL ANALYSIS

- Method of and apparatus for generating an interstitial point in a data stream having an even number of data points  
[NASA-CASE-MFS-25319-1] c 60 N85-33701

## NUMERICAL CONTROL

- Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215  
Digital numerically controlled oscillator  
[NASA-CASE-MSC-16747-1] c 33 N81-17349  
Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352  
Reconfiguring redundancy management  
[NASA-CASE-MSC-18498-1] c 60 N82-29013  
Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681  
Variable friction secondary seal for face seals  
[NASA-CASE-LEW-14170-1] c 37 N86-25790  
A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864

## NUMERICAL INTEGRATION

- Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437

## NUTATION

- Method and means for damping nutation in a satellite Patent  
[NASA-CASE-XMF-00442] c 31 N71-10747  
Nutation damper  
[NASA-CASE-GSC-11205-1] c 15 N73-25513

## NUTATION DAMPERS

- Active nutation controller  
[NASA-CASE-GSC-12273-1] c 35 N80-21719  
Method of damping nutation motion with minimum spin axis attitude disturbance  
[NASA-CASE-GSC-12551-1] c 18 N83-28064

## NUTS (FASTENERS)

- Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922  
Split nut separation system Patent  
[NASA-CASE-XNP-06914] c 15 N71-21489  
Fastener stretcher  
[NASA-CASE-GSC-11149-1] c 15 N73-30457  
High-torque open-end wrench  
[NASA-CASE-NPO-13541-1] c 37 N79-14383  
Floating nut retention system  
[NASA-CASE-MSC-16938-1] c 37 N80-23653  
Daze fasteners  
[NASA-CASE-LAR-13009-2] c 37 N87-22976  
Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977

## O

## O RING SEALS

- High pressure four-way valve Patent  
[NASA-CASE-XNP-00214] c 15 N70-36908  
Self-stabilizing radial face seal  
[NASA-CASE-LEW-12991-1] c 37 N81-24442  
Circumferential shaft seal  
[NASA-CASE-LEW-12119-2] c 37 N81-26447  
Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091

- Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497  
Variable friction secondary seal for face seals  
[NASA-CASE-LEW-14170-1] c 37 N86-25790

## OBLIQUE WINGS

- Oblique-wing supersonic aircraft  
[NASA-CASE-ARC-10470-3] c 05 N76-29217

## OBSERVATION

- Method for investigating the formation of crystals in a transparent material  
[NASA-CASE-MFS-26008-1-CU] c 76 N88-14835

## OCCLUSION

- Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744

## OCEAN CURRENTS

- Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327

## OCEAN DATA ACQUISITIONS SYSTEMS

- Oceanic wave measurement system  
[NASA-CASE-MFS-23862-1] c 48 N80-18667  
Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723

## OCEAN SURFACE

- Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391  
Oceanic wave measurement system  
[NASA-CASE-MFS-23862-1] c 48 N80-18667

## OCEAN THERMAL ENERGY CONVERSION

- Ocean thermal plant  
[NASA-CASE-KSC-11034-1] c 44 N78-32542

## ODORS

- Vapor fragrances  
[NASA-CASE-LAR-13680-1] c 35 N87-25561

## OFFSHORE PLATFORMS

- Ocean thermal plant  
[NASA-CASE-KSC-11034-1] c 44 N78-32542

## OHMMETERS

- Positive contact resistance soldering unit  
[NASA-CASE-KSC-10242] c 15 N72-23497  
Four-terminal electrical testing device --- initiator  
[NASA-CASE-MSC-21166-1] c 35 N87-25555

## OIL EXPLORATION

- Underwater seismic source --- for petroleum exploration  
[NASA-CASE-NPO-14255-1] c 46 N79-23555  
Borehole geological assessment  
[NASA-CASE-NPO-14231-1] c 46 N80-10709

## OIL RECOVERY

- Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-2] c 27 N77-31308  
In-situ laser retorting of oil shale  
[NASA-CASE-LEW-12217-1] c 43 N78-14452  
Crude oil desulfurization  
[NASA-CASE-NPO-14542-1] c 25 N82-23282  
Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428

## OILS

- Method of recording a gas flow pattern Patent  
[NASA-CASE-XMF-01779] c 12 N71-20815  
Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-2] c 27 N77-31308

## OMNIDIRECTIONAL ANTENNAS

- Omnidirectional microwave spacecraft antenna Patent  
[NASA-CASE-XLA-03114] c 09 N71-22888  
Stacked array of omnidirectional antennas  
[NASA-CASE-LAR-10545-1] c 09 N72-21244  
Omnidirectional slot antenna for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c 09 N72-25247

## ONBOARD EQUIPMENT

- Survival couch Patent  
[NASA-CASE-XLA-00118] c 05 N70-33285  
Cryogenic storage system Patent  
[NASA-CASE-XMS-04390] c 31 N70-41871  
Fiber optic vibration transducer and analyzer Patent  
[NASA-CASE-XMF-02433] c 14 N71-10616  
Satellite appendage tie down cord Patent  
[NASA-CASE-XGS-02554] c 31 N71-21064  
Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948  
A dc servosystem including an ac motor Patent  
[NASA-CASE-NPO-10700] c 07 N71-33613  
Collapsible Apollo couch  
[NASA-CASE-MSC-13140] c 05 N72-11085  
Monostable multivibrator  
[NASA-CASE-GSC-10082-1] c 10 N72-20221  
Delayed simultaneous release mechanism  
[NASA-CASE-GSC-10814-1] c 03 N73-20039

- Electronic strain-level counter  
[NASA-CASE-LAR-10756-1] c 32 N73-26910  
Magnetic heading reference  
[NASA-CASE-LAR-11387-1] c 04 N76-20114

## OPEN CHANNEL FLOW

- Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180

## OPERATING TEMPERATURE

- Solar cell having improved back surface reflector  
[NASA-CASE-LEW-13620-1] c 44 N83-13579

## OPERATIONAL AMPLIFIERS

- Digital automatic gain amplifier  
[NASA-CASE-KSC-11008-1] c 33 N79-22373  
Automatic level control circuit  
[NASA-CASE-KSC-11170-1] c 33 N83-36356  
Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975  
Temperature sensitive oscillator  
[NASA-CASE-GSC-12958-1] c 33 N86-32624

## OPHTHALMOLOGY

- Ophthalmic method and apparatus  
[NASA-CASE-LEW-11669-1] c 05 N73-27062  
Ophthalmic liquefaction pump  
[NASA-CASE-LEW-12051-1] c 52 N75-33640

## OPTICAL COMMUNICATION

- Retrodiffractive optical system  
[NASA-CASE-XGS-04480] c 16 N69-27491  
Optical communications system Patent  
[NASA-CASE-XLA-01090] c 07 N71-12389  
Optical frequency waveguide and transmission system Patent  
[NASA-CASE-HQN-10541-4] c 16 N71-27183  
High pulse rate high resolution optical radar system  
[NASA-CASE-NPO-11426] c 07 N73-26119  
Apparatus for simulating optical transmission links  
[NASA-CASE-GSC-11877-1] c 74 N76-18913  
Fiber distributed feedback laser  
[NASA-CASE-NPO-13531-1] c 36 N76-24553  
Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c 74 N76-30053  
Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942  
Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346  
Fiber optic multiplex optical transmission system  
[NASA-CASE-KSC-11047-1] c 74 N78-14889  
Fiber optic crossbar switch for automatically patching optical signals  
[NASA-CASE-KSC-11104-1] c 74 N83-29032  
Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207

## OPTICAL COUPLING

- Automatic quadrature control and measuring system --- using optical coupling circuitry  
[NASA-CASE-MFS-21660-1] c 35 N74-21017  
Optical fiber coupling method and apparatus  
[NASA-CASE-NPO-15464-1] c 74 N85-29749

## OPTICAL DATA PROCESSING

- Optical data processing using paraboloidal mirror segments  
[NASA-CASE-GSC-11296-1] c 23 N73-30666  
Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c 35 N74-15831  
Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-1] c 32 N79-19195  
Interleaving device  
[NASA-CASE-GSC-12111-2] c 33 N81-29342  
Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297  
Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918  
Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348  
Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078

## OPTICAL DENSITY

- Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783  
Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862

## OPTICAL EMISSION SPECTROSCOPY

- Maksutov spectrograph Patent  
[NASA-CASE-XLA-14042] c 14 N71-29041  
Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119



**OPTICAL EQUIPMENT**

Light detection instrument Patent  
[NASA-CASE-XGS-05534] c 23 N71-16355

Optical characteristics measuring apparatus Patent  
[NASA-CASE-XNP-08840] c 23 N71-16365

Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268

Laser grating interferometer Patent  
[NASA-CASE-XLA-04295] c 16 N71-24170

Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868

Method for generating ultra-precise angles Patent  
[NASA-CASE-XGS-04173] c 19 N71-26674

Petzval type objective including field shaping lens Patent  
[NASA-CASE-GSC-10700] c 23 N71-30027

Compact spectroradiometer  
[NASA-CASE-HQN-10683] c 14 N71-34389

Fine adjustment mount  
[NASA-CASE-MFS-20249] c 15 N72-11386

Method of coating solar cell with borosilicate glass and resultant product  
[NASA-CASE-GSC-11514-1] c 03 N72-24037

Light sensor  
[NASA-CASE-NPO-11311] c 14 N72-25414

Borescope with variable angle scope  
[NASA-CASE-MFS-15162] c 14 N72-32452

Cyclically operable optical shutter  
[NASA-CASE-NPO-10758] c 14 N73-14427

Star tracking reticles and process for the production thereof  
[NASA-CASE-GSC-11188-2] c 21 N73-19630

Infrared horizon locator  
[NASA-CASE-LAR-10726-1] c 14 N73-20475

Multiple pass reimaging optical system  
[NASA-CASE-ARC-10194-1] c 23 N73-20741

Altitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089

Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c 74 N74-20008

Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c 74 N74-21304

Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c 35 N74-23040

Strain gauge ambiguity sensor for segmented mirror active optical system  
[NASA-CASE-MFS-20506-1] c 35 N75-12273

Optical alignment device  
[NASA-CASE-ARC-10932-1] c 74 N76-22993

Visual examination apparatus  
[US-PATENT-RE-28,921] c 52 N76-30793

Optical instrument employing reticle having preselected visual response pattern formed thereon  
[NASA-CASE-ARC-10976-1] c 74 N77-22950

Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366

Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932

Method of treating the surface of a glass member  
[NASA-CASE-GSC-12110-1] c 27 N77-32308

Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854

Water system virus detection  
[NASA-CASE-MS-16098-1] c 51 N79-10693

Method of forming a sharp edge on an optical device  
[NASA-CASE-GSC-12348-1] c 74 N80-24149

Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13978

High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898

Optical system  
[NASA-CASE-NPO-15801-1] c 74 N85-23396

High-temperature, high-pressure optical cell  
[NASA-CASE-MFS-26000-1] c 74 N87-14971

**OPTICAL FIBERS**  
Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119

**OPTICAL FILTERS**  
High temperature lens construction Patent  
[NASA-CASE-XNP-04111] c 14 N71-15622

Method and apparatus for eliminating coherent noise in a coherent energy imaging system without destroying spatial coherence  
[NASA-CASE-GSC-11133-1] c 23 N72-11568

Optical noise suppression device and method --- laser light exposing film  
[NASA-CASE-MS-12640-1] c 74 N76-31998

System for producing chroma signals  
[NASA-CASE-MS-14683-1] c 74 N77-18893

Optical conversion method --- for spacecraft television  
[NASA-CASE-MS-12618-1] c 74 N78-17865

Partial polarizer filter  
[NASA-CASE-GSC-12225-1] c 74 N79-14891

Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766

Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650

Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416

**OPTICAL GYROSCOPES**  
Optical gyroscope system  
[NASA-CASE-NPO-14258-1] c 35 N81-33448

Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037

Closed loop fiber optic rotation sensor  
[NASA-CASE-NPO-16558-1-CU] c 74 N87-23259

**OPTICAL HETERODYNING**  
Multispectral imaging system  
[NASA-CASE-MS-12404-1] c 23 N73-13661

Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942

Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346

**OPTICAL MATERIALS**  
Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854

Containerless high purity pulling process and apparatus for glass fiber  
[NASA-CASE-MFS-25905-2] c 31 N86-21718

**OPTICAL MEASUREMENT**  
Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMF-14032] c 20 N71-16340

Ellipsoidal mirror reflectometer including means for averaging the radiation reflected from the sample  
[NASA-CASE-XGS-05291] c 23 N71-16341

Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c 35 N74-23040

Hybrid holographic non-destructive test system  
[NASA-CASE-MFS-23114-1] c 38 N78-32447

Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913

Film advance indicator  
[NASA-CASE-LAR-12474-1] c 35 N82-26628

Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577

Rotary target V-block  
[NASA-CASE-LAR-12007-3] c 35 N84-16523

Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766

Optical multiple sample vacuum integrating sphere  
[NASA-CASE-GSC-12849-1] c 74 N86-26190

**OPTICAL MEASURING INSTRUMENTS**  
Optically pumped resonance magnetometer for determining vectoral components in a spatial coordinate system Patent  
[NASA-CASE-XGS-04879] c 14 N71-20428

Optical machine tool alignment indicator Patent  
[NASA-CASE-XAC-09489-1] c 15 N71-26673

Optical systems having spatially invariant outputs  
[NASA-CASE-ERC-10248] c 14 N72-17323

Optical probing of supersonic flows with statistical correlation  
[NASA-CASE-MFS-20642] c 14 N72-21407

Multiparameter vision testing apparatus  
[NASA-CASE-MS-13601-2] c 54 N75-27759

Noncontacting method for measuring angular deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138

Visible and infrared polarization ratio spectrophotometer  
[NASA-CASE-LAR-12285-1] c 35 N80-28687

Interferometer  
[NASA-CASE-NPO-14502-1] c 74 N81-17888

Optical crystal temperature gauge with fiber optic connections  
[NASA-CASE-MS-18627-1] c 74 N82-30071

Optical fiber tactile sensor  
[NASA-CASE-NPO-15375-1] c 74 N84-11921

Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266

Vibration-free Raman Doppler velocimeter  
[NASA-CASE-LAR-13268-1] c 35 N87-14669

Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302

**OPTICAL PATHS**  
Optical instruments  
[NASA-CASE-MS-14096-1] c 74 N74-15095

Large volume multiple-path nuclear pumped laser  
[NASA-CASE-LAR-12592-1] c 36 N82-13415

Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302

**OPTICAL POLARIZATION**  
Real-time image difference detection using a polarization rotation spacial light modulator  
[NASA-CASE-NPO-17144-1-CU] c 74 N88-25305

**OPTICAL PROPERTIES**  
Optical torqueometer Patent  
[NASA-CASE-XLE-00503] c 14 N70-34818

Quasi-optical microwave component Patent  
[NASA-CASE-ERC-10011] c 07 N71-29065

Light sensor  
[NASA-CASE-NPO-11311] c 14 N72-25414

Light direction sensor  
[NASA-CASE-NPO-11201] c 14 N72-27409

Device and method for determining X ray reflection efficiency of optical surfaces  
[NASA-CASE-MFS-20243] c 23 N73-13662

Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c 74 N74-20008

Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c 37 N74-21060

Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437

**OPTICAL PUMPING**  
Optical pump and driver system for lasers  
[NASA-CASE-ERC-10283] c 16 N72-25485

Laser head for simultaneous optical pumping of several dye lasers --- with single flash lamp  
[NASA-CASE-LAR-11341-1] c 36 N75-19655

Stabilization of He2(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826

Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189

Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065

**OPTICAL PYROMETERS**  
Motion picture camera for optical pyrometry Patent  
[NASA-CASE-XLA-00062] c 14 N70-33254

**OPTICAL RADAR**  
Acquisition and tracking system for optical radar  
[NASA-CASE-MFS-20125] c 16 N72-13437

**OPTICAL RANGE FINDERS**  
Altitude sensing device  
[NASA-CASE-XMS-01994-1] c 14 N72-17326

Optical range finder having nonoverlapping complete images  
[NASA-CASE-MS-12105-1] c 14 N72-21409

**OPTICAL REFLECTION**  
Hybrid holographic system using reflected and transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c 16 N71-15565

Method for generating ultra-precise angles Patent  
[NASA-CASE-XGS-04173] c 19 N71-26674

Illumination system including a virtual light source Patent  
[NASA-CASE-HQN-10781] c 23 N71-30292

Diffuse reflective coating  
[NASA-CASE-GSC-11214-1] c 06 N73-13128

Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942

Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933

Method and apparatus for splitting a beam of energy --- optical communication  
[NASA-CASE-GSC-12083-1] c 73 N78-32848

Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082

Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302

**OPTICAL RESONANCE**  
Optically pumped resonance magnetometer for determining vectoral components in a spatial coordinate system Patent  
[NASA-CASE-XGS-04879] c 14 N71-20428

Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c 36 N75-19653

**OPTICAL SCANNERS**  
Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485

Optical inspection apparatus Patent  
[NASA-CASE-XMF-00462] c 14 N70-34298

Electro-optical scanning apparatus Patent Application  
[NASA-CASE-NPO-11106] c 14 N70-34697

- Multi-lobar scan horizon sensor Patent  
[NASA-CASE-XGS-00809] c 21 N70-35427
- Optical binocular scanning apparatus  
[NASA-CASE-NPO-11002] c 14 N72-22441
- Spacecraft attitude sensor  
[NASA-CASE-GSC-10890-1] c 21 N73-30640
- Optical instruments  
[NASA-CASE-MS-14096-1] c 74 N74-15095
- Dual digital video switcher  
[NASA-CASE-KSC-10782-1] c 33 N75-30431
- Traffic survey system --- using optical scanners  
[NASA-CASE-MFS-22631-1] c 66 N76-19888
- Optical scanner --- laser doppler velocimeters  
[NASA-CASE-LAR-11711-1] c 74 N78-17866
- Device for measuring the contour of a surface  
[NASA-CASE-LAR-11869-1] c 74 N78-27904
- Velocity servo for continuous scan Fourier interference spectrometer  
[NASA-CASE-NPO-14093-1] c 35 N80-20563
- Method of growing a ribbon crystal particularly suited for facilitating automated control of ribbon width  
[NASA-CASE-NPO-14295-1] c 76 N80-32245
- Scanning afocal laser velocimeter projection lens system  
[NASA-CASE-LAR-12328-1] c 36 N82-32712
- Optical scanner  
[NASA-CASE-GSC-12897-1] c 74 N87-21679
- OPTICAL TRACKING**
- Sun tracker with rotatable plane-parallel plate and two photocells Patent  
[NASA-CASE-XGS-01159] c 21 N71-10678
- Optical tracker having overlapping reticles on parallel axes Patent  
[NASA-CASE-XGS-05715] c 23 N71-16100
- Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627
- Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520
- Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768
- Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117
- Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348
- Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301
- OPTICAL TRANSFER FUNCTION**
- Electronic optical transfer function analyzer  
[NASA-CASE-MFS-21672-1] c 74 N76-19935
- OPTICAL WAVEGUIDES**
- Fiber optic transmission line stabilization apparatus and method  
[NASA-CASE-NPO-15036-1] c 74 N82-19029
- OPTIMIZATION**
- Maximum power point tracker Patent  
[NASA-CASE-GSC-10376-1] c 14 N71-27407
- OPTOELECTRONIC DEVICES**
- Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N88-23924
- OPTOGALVANIC SPECTROSCOPY**
- Discharge cell for optogalvanic spectroscopy having orthogonal relationship between the probe laser and discharge axis  
[NASA-CASE-NPO-16271-1] c 35 N86-25753
- ORAL HYGIENE**
- Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862
- ORBIT TRANSFER VEHICLES**
- Tanker orbit transfer vehicle and method  
[NASA-CASE-MS-20543-1] c 18 N84-22610
- ORBITAL ASSEMBLY**
- Structural members, method and apparatus  
[NASA-CASE-MS-16217-1] c 31 N81-27323
- Beam connector apparatus and assembly  
[NASA-CASE-MFS-25134-1] c 31 N83-31895
- Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828
- Bi-stem gripping apparatus  
[NASA-CASE-MFS-28185-1] c 37 N88-23979
- Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MS-20985-1] c 18 N88-26398
- ORBITAL LAUNCHING**
- Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469
- ORBITAL MANEUVERING VEHICLES**
- Orbital maneuvering and effectors  
[NASA-CASE-MFS-28161-1] c 37 N87-18817
- Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118

**ORBITAL MANEUVERS**

- Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278

**ORBITAL MECHANICS**

- A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth  
[NASA-CASE-MS-12391] c 30 N73-12884

**ORBITAL SERVICING**

- Electrical self-aligning connector --- orbital servicer vehicles  
[NASA-CASE-MFS-25211-2] c 33 N84-14423
- Tanker orbit transfer vehicle and method  
[NASA-CASE-MS-20543-1] c 18 N84-22610
- Shuttle-launch triangular space station  
[NASA-CASE-MS-20676-1] c 18 N86-24729
- Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118
- Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786

**ORDNANCE**

- Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863

**ORGANIC CHEMISTRY**

- Process for interfacial polymerization of pyromellitic dianhydride and 1,2,4,5-tetraamino-benzene Patent  
[NASA-CASE-XLA-03104] c 06 N71-12325
- Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844

**ORGANIC COMPOUNDS**

- Process for preparation of dianilinosilanes Patent  
[NASA-CASE-XMF-06409] c 06 N71-23230
- Dicyanooacetylene polymers Patent  
[NASA-CASE-XNP-03250] c 06 N71-23500
- Epoxy-aziridine polymer product Patent  
[NASA-CASE-NPO-10701] c 06 N71-28620
- Diffuse reflective coating  
[NASA-CASE-GSC-11214-1] c 06 N73-13128
- Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245
- Analysis of volatile organic compounds --- trace amounts of organic volatiles in gas samples  
[NASA-CASE-MS-14428-1] c 23 N77-17161
- Electrophotolysis oxidation system for measurement of organic concentration in water  
[NASA-CASE-MS-16497-1] c 25 N82-12166
- Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-2] c 27 N84-22746
- Amine terminated bisazepartimide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726
- The 1-((diorganoxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605

**ORGANIC MATERIALS**

- Process for crosslinking methylene-containing aromatic polymers with ionizing radiation  
[NASA-CASE-LAR-13448-1] c 27 N86-24840

**ORGANIC SILICON COMPOUNDS**

- Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers  
[NASA-CASE-ARC-10915-2] c 27 N79-18052
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040

**ORGANIC SULFUR COMPOUNDS**

- Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246

**ORGANOMETALLIC COMPOUNDS**

- Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c 27 N71-14090
- Trialkyl-dihalotantalum and niobium compounds Patent  
[NASA-CASE-HQN-04023] c 06 N71-28808

- Carboranyl-methylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750
- Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334

**ORGANOMETALLIC POLYMERS**

- Metal containing polymers from cyclic tetrameric phenylphosphonitrimides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363
- Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c 37 N74-21058

**ORIFICE FLOW**

- Relief valve  
[NASA-CASE-XMS-05894-1] c 15 N69-21924

**ORIFICES**

- Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736
- Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255

**ORTHO HYDROGEN**

- Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324

**ORTHO PARA CONVERSION**

- Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324

**ORTHOGONAL MULTIPLEXING THEORY**

- Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917

**ORTHOGONALITY**

- Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790
- Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793

**ORTHOPEDECS**

- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-1] c 54 N76-22914
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661

**ORTHOTROPIC CYLINDERS**

- Method of making a rocket motor casing Patent  
[NASA-CASE-XLE-00409] c 28 N71-15658
- Rocket motor casing Patent  
[NASA-CASE-XLE-05689] c 28 N71-15659

**OSCILLATION DAMPERS**

- Viscous-pendulum-damper Patent  
[NASA-CASE-XLA-02079] c 12 N71-16894
- Stabilization of gravity oriented satellites Patent  
[NASA-CASE-XAC-01591] c 31 N71-17729
- Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146
- Wind tunnel model damper Patent  
[NASA-CASE-XLA-09480] c 11 N71-33612
- Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493
- Method of damping nutation motion with minimum spin axis attitude disturbance  
[NASA-CASE-GSC-12551-1] c 18 N83-28064
- Variable force, eddy-current or magnetic damper  
[NASA-CASE-LEW-13717-1] c 37 N85-30333

**OSCILLATIONS**

- Parasitic suppressing circuit  
[NASA-CASE-ERC-10403-1] c 10 N73-26228
- Stabilization and oscillation of an acoustically levitated object  
[NASA-CASE-NPO-16896-1-CU] c 71 N89-13236

**OSCILLATORS**

- Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461
- Frequency control network for a current feedback oscillator Patent  
[NASA-CASE-GSC-10041-1] c 10 N71-19418
- Static inverter Patent  
[NASA-CASE-XGS-05289] c 09 N71-19470
- Signal ratio system utilizing voltage controlled oscillators Patent  
[NASA-CASE-XMF-04367] c 09 N71-23545
- Pneumatic oscillator Patent  
[NASA-CASE-LEW-10345-1] c 10 N71-25899
- Wideband VCO with high phase stability Patent  
[NASA-CASE-XLA-03893] c 10 N71-27271
- Variable frequency oscillator with temperature compensation Patent  
[NASA-CASE-XNP-03916] c 09 N71-28810
- Inverter oscillator with voltage feedback  
[NASA-CASE-NPO-10760] c 09 N72-25254
- Controlled oscillator system with a time dependent output frequency  
[NASA-CASE-NPO-11962-1] c 33 N74-10194
- Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c 33 N74-20862
- LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers  
[NASA-CASE-MFS-21698-1] c 33 N74-26732
- Frequency modulated oscillator  
[NASA-CASE-MFS-23181-1] c 33 N77-17351
- Distributed feedback acoustic surface wave oscillator  
[NASA-CASE-NPO-13673-1] c 71 N77-26919
- Digital numerically controlled oscillator  
[NASA-CASE-MS-16747-1] c 33 N81-17349
- Laser Resonator  
[NASA-CASE-GSC-12565-1] c 36 N84-14509
- Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452
- Dielectric based submillimeter backward wave oscillator circuit  
[NASA-CASE-LEW-13736-1] c 33 N84-27974
- JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515
- Temperature sensitive oscillator  
[NASA-CASE-GSC-12958-1] c 33 N86-32624
- Low phase noise oscillator using two parallel connected amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232

Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953

**OSCILLOSCOPES**

Waveform simulator Patent  
[NASA-CASE-NPO-10251] c 10 N71-27365

Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT  
[NASA-CASE-LAR-10320-1] c 09 N72-23172

Exposure interlock for oscilloscope cameras  
[NASA-CASE-LAR-10319-1] c 14 N73-32322

X-Y alphanumeric character generator for oscilloscopes  
[NASA-CASE-GSC-11582-1] c 33 N75-19517

**OUTER PLANETS EXPLORERS**

Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c 35 N75-19613

**OUTGASSING**

Optical characteristics measuring apparatus Patent  
[NASA-CASE-XNP-08840] c 23 N71-16365

Process for glass coating an ion accelerator grid Patent  
[NASA-CASE-LEW-10278-1] c 15 N71-28582

Low outgassing polydimethylsiloxane material and preparation thereof  
[NASA-CASE-GSC-11358-1] c 06 N73-26100

**OUTLET FLOW**

Amplified wind turbine apparatus  
[NASA-CASE-MFS-23830-1] c 44 N82-24639

Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178

**OUTPUT**

Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c 33 N76-14373

Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

Auxiliary data input device  
[NASA-CASE-LAR-13626-1] c 37 N87-25584

**OVENS**

Heat shield oven  
[NASA-CASE-XMS-04318] c 15 N69-27871

Thermocouple, multiple junction reference oven  
[NASA-CASE-FRC-10112-1] c 35 N81-26431

**OVERPRESSURE**

Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588

**OVERVOLTAGE**

Protective circuit of the spark gap type  
[NASA-CASE-XAC-08981] c 09 N69-39897

Power responsive overload sensing circuit Patent  
[NASA-CASE-GSC-10667-1] c 10 N71-33129

Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c 33 N74-17929

Overload protection system for power inverter  
[NASA-CASE-NPO-13872-1] c 33 N78-10377

**OXAZOLE**

Preparation of heterocyclic block copolymer omega-diamidoximes  
[NASA-CASE-ARC-11060-1] c 27 N79-22300

The 1,2,4-oxadiazole elastomers --- heat resistant polymers  
[NASA-CASE-ARC-11253-1] c 27 N81-17262

Preparation of perfluorinated 1,2,4-oxadiazoles  
[NASA-CASE-ARC-11267-2] c 23 N82-28353

**OXIDATION**

Silicide coatings for refractory metals Patent  
[NASA-CASE-XLE-10910] c 18 N71-29040

Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086

Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c 44 N76-29704

Process of forming catalytic surfaces for wet oxidation reactions  
[NASA-CASE-MS-C-14831-1] c 25 N78-10225

Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MS-C-14903-2] c 27 N80-10358

Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-1] c 27 N86-19458

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736

**OXIDATION RESISTANCE**

Nickel-base alloy containing Mo-W-Al-Cr-Ta-Zr-C-Nb-B Patent  
[NASA-CASE-XLE-02082] c 17 N71-16026

Method of protecting the surface of a substrate --- by applying aluminide coating  
[NASA-CASE-LEW-11696-1] c 37 N75-13261

Duplex aluminized coatings  
[NASA-CASE-LEW-11696-2] c 26 N75-19408

High temperature oxidation resistant cermet compositions  
[NASA-CASE-NPO-13666-1] c 27 N77-13217

High temperature resistant cermet and ceramic compositions  
[NASA-CASE-NPO-13690-2] c 27 N79-14213

Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916

Nickel ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505

Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233

High temperature resistant polyimide from tetra ester, diamine, diester and N-arylnadimide  
[NASA-CASE-LEW-13864-1] c 27 N86-19457

Apparatus for producing oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-2] c 27 N86-32569

Nickel base coating alloy  
[NASA-CASE-LEW-13834-1] c 26 N87-14482

Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

**OXIDATION-REDUCTION REACTIONS**

Electrochemical cell for rebalancing REDOX flow system  
[NASA-CASE-LEW-13150-1] c 44 N79-26474

Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-1] c 33 N80-20487

Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268

**OXIDE FILMS**

Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388

Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-1] c 27 N86-19458

Apparatus for producing oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-2] c 27 N86-32569

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736

**OXIDES**

Novel polymers and method of preparing same  
[NASA-CASE-NPO-10998-1] c 06 N73-32029

**OXIDIZERS**

Electrolytically regenerative hydrogen-oxygen fuel cell Patent  
[NASA-CASE-XLE-04526] c 03 N71-11052

Injection head for delivering liquid fuel and oxidizers  
[NASA-CASE-NPO-10046] c 28 N72-17843

Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MS-C-20622-1] c 25 N86-19413

**OXIMETRY**

Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent  
[NASA-CASE-XAC-05422] c 04 N71-23185

**OXYGEN**

Analytical test apparatus and method for determining oxide content of alkali metal Patent  
[NASA-CASE-XLE-01997] c 06 N71-23527

Method for removing oxygen impurities from cesium Patent  
[NASA-CASE-XNP-04262-2] c 17 N71-26773

Method of detecting oxygen in a gas  
[NASA-CASE-LAR-10668-1] c 06 N73-16106

Method for obtaining oxygen from lunar or similar soil  
[NASA-CASE-MS-C-12408-1] c 46 N74-13011

Nonflammable coating compositions --- for use in high oxygen environments  
[NASA-CASE-MFS-20486-2] c 27 N74-17283

A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447

Technique for measuring gas conversion factors  
[NASA-CASE-LAR-13220-1] c 34 N86-12547

Oxygen recombination in individual pressure vessel nickel-hydrogen batteries  
[NASA-CASE-LEW-13822-1] c 44 N86-25874

**OXYGEN ATOMS**

Variable energy, high flux, ground-state atomic oxygen source  
[NASA-CASE-NPO-16640-1-CU] c 72 N87-21661

**OXYGEN CONSUMPTION**

Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202

**OXYGEN FLUORIDES**

Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c 27 N76-16228

**OXYGEN METABOLISM**

Metabolic analyzer --- for measuring metabolic rate and breathing dynamics of human beings  
[NASA-CASE-MFS-21415-1] c 52 N74-20728

**OXYGEN PLASMA**

Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers  
[NASA-CASE-ARC-10915-2] c 27 N79-18052

**OXYGEN PRODUCTION**

Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744

**OXYGEN REGULATORS**

Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664

**OXYGEN SUPPLY EQUIPMENT**

Self-contained breathing apparatus  
[NASA-CASE-MS-C-14733-1] c 54 N76-24900

Slow opening valve --- valve design for shuttle portable oxygen system  
[NASA-CASE-MS-C-20112-1] c 37 N85-20338

**OZONE**

Thermoluminescent aerosol analysis  
[NASA-CASE-LAR-12046-1] c 25 N78-15210

Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579

Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514

## P

## P-I-N JUNCTIONS

High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177

## P-N JUNCTIONS

Thin window, drifted silicon, charged particle detector  
[NASA-CASE-XLE-10529] c 14 N69-23191

Semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980] c 09 N69-27422

Radiation resistant silicon semiconductor devices Patent  
[NASA-CASE-XGS-07801] c 09 N71-12513

Biomedical radiation detecting probe Patent  
[NASA-CASE-XMS-01177] c 05 N71-19440

Method of making electrical contact on silicon solar cell and resultant product Patent  
[NASA-CASE-XLE-04787] c 03 N71-20492

Method of changing the conductivity of vapor deposited gallium arsenide by the introduction of water into the vapor deposition atmosphere Patent  
[NASA-CASE-NPO-01961] c 26 N71-29156

Method of making semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980-2] c 14 N72-28438

Semiconductor surface protection material  
[NASA-CASE-ERC-10339-1] c 18 N73-30532

Method and apparatus for measuring minority carrier lifetimes and bulk diffusion length in P-N junction solar cells  
[NASA-CASE-NPO-14100-1] c 44 N79-12541

Back wall solar cell  
[NASA-CASE-LEW-12236-2] c 44 N79-14528

## P-TYPE SEMICONDUCTORS

Semiconductor material and method of making same Patent  
[NASA-CASE-XLE-02798] c 26 N71-23654

Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638

Method of Fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780

## PACKAGES

Impact testing machine Patent  
[NASA-CASE-XNP-04817] c 14 N71-23225

One hand backpack harness  
[NASA-CASE-LAR-10102-1] c 05 N72-23085

## PACKAGING

Folding apparatus Patent  
[NASA-CASE-XLA-00137] c 15 N70-33180

Reflector space satellite Patent  
[NASA-CASE-XLA-00138] c 31 N70-37981

Apparatus and method for skin packaging articles  
[NASA-CASE-MFS-20455] c 15 N73-27405

Double-sided solar cell package  
[NASA-CASE-NPO-14199-1] c 44 N79-25482

## PACKET TRANSMISSION

Multicomputer communication system  
[NASA-CASE-NPO-15433-1] c 32 N85-21428

## PACKING DENSITY

Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936

## PACKINGS (SEALS)

Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c 37 N76-22541

## PAD

Lubricated journal bearing  
[NASA-CASE-LEW-11076-3] c 37 N75-30562

## PAINTS

Intumescent paints Patent  
[NASA-CASE-ARC-10099-1] c 18 N71-15469  
Alkali metal silicate protective coating Patent  
[NASA-CASE-XGS-04799] c 18 N71-24183  
Inorganic thermal control pigment Patent  
[NASA-CASE-XNP-02139] c 18 N71-24184  
Diffusely reflecting paints including  
polytetrafluoroethylene and method of manufacture  
[NASA-CASE-GSC-12883-1] c 27 N85-29044

## PALLADIUM

Electrically conductive palladium containing polyimide films  
[NASA-CASE-LAR-12705-1] c 25 N82-26396

## PALLADIUM COMPOUNDS

Prevention of pressure build-up in electrochemical cells Patent  
[NASA-CASE-XGS-01419] c 03 N70-41864  
Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium with palladium black  
[NASA-CASE-MSC-13335-1] c 06 N72-31140

## PANELS

All-directional fastener Patent  
[NASA-CASE-XLA-01807] c 15 N71-10799  
Panelized high performance multilayer insulation Patent  
[NASA-CASE-MFS-14023] c 33 N71-25351  
Solar panel fabrication Patent  
[NASA-CASE-XNP-03413] c 03 N71-26726  
Method of making pressurized panel Patent  
[NASA-CASE-XLA-08916] c 15 N71-29018  
Honeycomb panels formed of minimal surface periodic tubule layers  
[NASA-CASE-ERC-10364] c 18 N72-25540  
Pressurized panel  
[NASA-CASE-XLA-08916-2] c 14 N73-28487  
Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MFS-20335-1] c 35 N74-10415  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040  
Method of making a composite sandwich lattice structure  
[NASA-CASE-LAR-11898-2] c 24 N78-17149  
Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599  
Hexagon solar power panel  
[NASA-CASE-NPO-12148-1] c 44 N78-27515  
Aluminium or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-3] c 44 N80-16452  
Structural wood panels with improved fire resistance  
[NASA-CASE-ARC-11174-1] c 24 N81-13999  
Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388  
Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577  
Saltless solar pond  
[NASA-CASE-NPO-15808-1] c 44 N84-34792  
Structural panels  
[NASA-CASE-ARC-11429-2-CU] c 27 N87-22845  
Truss-core corrugation for compressive loads  
[NASA-CASE-LAR-13438-1] c 31 N89-12786

## PANORAMIC SCANNING

Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1-CU] c 35 N88-24944

## PAPER (MATERIAL)

Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747

## PAPERS

Guide for a typewriter  
[NASA-CASE-MFS-15218-1] c 37 N77-19457

## PARA HYDROGEN

Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324

## PARABOLIC ANTENNAS

Antenna beam-shaping apparatus Patent  
[NASA-CASE-XNP-00611] c 09 N70-35219  
Reversible motion drive system Patent  
[NASA-CASE-NPO-10173] c 15 N71-24696  
Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472  
Telescoping columns --- parabolic antenna support  
[NASA-CASE-LAR-12195-1] c 31 N81-27324  
Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355

## PARABOLIC REFLECTORS

Parabolic reflector horn feed with spillover correction Patent  
[NASA-CASE-XNP-00540] c 09 N70-35382  
Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c 03 N70-41580  
Collapsible reflector Patent  
[NASA-CASE-XMS-03454] c 09 N71-20658  
Plural beam antenna  
[NASA-CASE-GSC-11013-1] c 09 N73-19234  
Composite antenna feed  
[NASA-CASE-GSC-11046-1] c 07 N73-28013  
Single frequency, two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c 32 N76-15329  
Sun tracking solar energy collector  
[NASA-CASE-NPO-13921-1] c 44 N79-14526  
Horizontally mounted solar collector  
[NASA-CASE-MFS-23349-1] c 44 N79-23481  
Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473  
Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082

## PARABOLOID MIRRORS

Optical data processing using paraboloidal mirror segments  
[NASA-CASE-GSC-11296-1] c 23 N73-30666  
Three mirror glancing incidence system for X-ray telescope  
[NASA-CASE-MFS-21372-1] c 74 N74-27866

## PARACHUTE DESCENT

Parachute glider Patent  
[NASA-CASE-XLA-00898] c 02 N70-36804  
Vehicle parachute and equipment jettison system Patent  
[NASA-CASE-XLA-00195] c 02 N70-38009  
Line cutter Patent  
[NASA-CASE-XMS-04072] c 15 N70-42017  
Vortex breach high pressure gas generator  
[NASA-CASE-LAR-10549-1] c 31 N73-13898

## PARACHUTE FABRICS

Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c 02 N74-10034  
Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330

## PARACHUTES

System for stabilizing torque between a balloon and gondola  
[NASA-CASE-GSC-11077-1] c 02 N73-13008  
Deploy/release system --- model aircraft flight control  
[NASA-CASE-LAR-11575-1] c 02 N76-16014  
System and method for refurbishing and processing parachutes --- monorial conveyor system  
[NASA-CASE-KSC-11042-2] c 02 N81-26073  
Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330  
Dual towline spin-recovery device  
[NASA-CASE-LAR-13076-1] c 08 N85-35200

## PARAGLIDERS

Parachute glider Patent  
[NASA-CASE-XLA-00898] c 02 N70-36804

## PARALLAX

Projection system for display of parallax and perspective  
[NASA-CASE-MFS-23194-1] c 35 N78-17357  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629

## PARALLEL PLATES

Parallel plate viscometer Patent  
[NASA-CASE-XNP-09462] c 14 N71-17584  
Dynamic capacitor having a peripherally driven element and system incorporating the same  
[NASA-CASE-XNP-02899-1] c 33 N79-21265  
Multiple plate hydrostatic viscous damper  
[NASA-CASE-LEW-12445-1] c 37 N81-22360  
Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751  
Massively parallel processor computer  
[NASA-CASE-GSC-12223-1] c 60 N83-25378  
Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491

## PARAMETRIC AMPLIFIERS

Parametric amplifiers with idler circuit feedback  
[NASA-CASE-LAR-10253-1] c 09 N72-25258  
Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c 33 N74-32660

## PARAMETRIC FREQUENCY CONVERTERS

Method and apparatus for quadriphase-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192

## PARAWINGS

Wing deployment method and apparatus Patent  
[NASA-CASE-XMS-00907] c 02 N70-41630

## PARKING

Automated multi-level vehicle parking system  
[NASA-CASE-NPO-13058-1] c 37 N77-22480

## PARTIAL PRESSURE

Vapor pressure measuring system and method Patent  
[NASA-CASE-XMS-01618] c 14 N71-20741

## PARTICLE ACCELERATION

Molecular beam velocity selector Patent  
[NASA-CASE-XLE-01533] c 11 N71-10777  
Dust particle injector for hypervelocity accelerators Patent  
[NASA-CASE-XGS-06628] c 24 N71-16213

## PARTICLE ACCELERATOR TARGETS

Dispensing targets for ion beam particle generators  
[NASA-CASE-NPO-13112-1] c 73 N74-26767  
Deuterium pass through target --- neutron emitting target  
[NASA-CASE-LEW-11866-1] c 72 N76-15860  
Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237

## PARTICLE BEAMS

Particle beam measurement apparatus using beam kinetic energy to change the heat sensitive resistance of the detection probe Patent  
[NASA-CASE-XLE-00243] c 14 N70-38602  
Doppler shift system --- system for measuring velocities of radiating particles  
[NASA-CASE-HQN-10740-1] c 72 N74-19310  
Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575

## PARTICLE COLLISIONS

Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c 14 N71-22990  
Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253

## PARTICLE DENSITY (CONCENTRATION)

Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c 14 N70-41332

## PARTICLE EMISSION

Extended area semiconductor radiation detectors and a novel readout arrangement Patent  
[NASA-CASE-XGS-03230] c 14 N71-23401  
Coincidence apparatus for detecting particles  
[NASA-CASE-LAR-07813] c 14 N72-17328

## PARTICLE ENERGY

Particle detection apparatus Patent  
[NASA-CASE-XLA-00135] c 14 N70-33322  
Particulate and aerosol detector  
[NASA-CASE-LAR-11434-1] c 35 N76-22509

## PARTICLE MASS

Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c 35 N76-15431  
Microbalance --- for measuring particle mass  
[NASA-CASE-MSC-11242] c 35 N78-17358

## PARTICLE MOTION

Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c 35 N76-16393

## PARTICLE PRODUCTION

Production of I-123  
[NASA-CASE-LEW-11390-3] c 25 N76-29379

## PARTICLE SIZE DISTRIBUTION

Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936  
Apparatus for making a metal slurry product Patent  
[NASA-CASE-XLE-00010] c 15 N70-33382  
Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent  
[NASA-CASE-XLE-03940] c 18 N71-26153

Grain refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c 37 N75-19683

Apparatus for handling micron size range particulate material  
[NASA-CASE-NPO-10151] c 37 N78-17386

Frequency-scanning particle size spectrometer  
[NASA-CASE-NPO-13606-2] c 35 N80-18364

Process for preparation of large-particle-size monodisperse latexes  
[NASA-CASE-MFS-25000-1] c 25 N81-19242

Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615

Powder fed sheared dispersal particle generator  
[NASA-CASE-LAR-12785-1] c 37 N84-16561

Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846

## PARTICLE TRAJECTORIES

Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c 35 N76-15433

- Direction sensitive laser velocimeter --- determining the direction of particles using a helium-neon laser  
[NASA-CASE-LAR-12177-1] c 36 N81-24422
- PARTICLES**  
Soil particles separator, collector and viewer Patent  
[NASA-CASE-XNP-09770] c 15 N71-20440  
Apparatus for producing metal powders  
[NASA-CASE-XLE-06461-2] c 17 N72-28535  
Particle parameter analyzing system --- x-y plotter circuits and display  
[NASA-CASE-XLE-06094] c 33 N78-17293  
Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152  
Acoustic particle separation  
[NASA-CASE-NPO-15559-1] c 71 N85-30765  
Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428
- PARTICULATE SAMPLING**  
Apparatus for sampling particulates in gases  
[NASA-CASE-HQN-10037-1] c 14 N73-27376  
Electrophoretic sample insertion --- device for uniformly distributing samples in flow path  
[NASA-CASE-MFS-21395-1] c 25 N74-26948  
Sampler of gas borne particles  
[NASA-CASE-NPO-13396-1] c 35 N76-18401  
Fine particulate capture device  
[NASA-CASE-LEW-11583-1] c 35 N79-17192  
Biocontamination and particulate detection system  
[NASA-CASE-NPO-13953-1] c 35 N79-28527  
Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184
- PARTICULATES**  
Apparatus for sampling particulates in gases  
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- PASSAGEWAYS**  
Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936
- PASSENGERS**  
Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445
- PASSIVE SATELLITES**  
Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309  
Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors Patent  
[NASA-CASE-XGS-02608] c 07 N70-41678  
Method of making an inflatable panel Patent  
[NASA-CASE-XLA-03497] c 15 N71-23052
- PATENTS**  
Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072  
Method for depositing an oxide coating  
[NASA-CASE-LEW-13131-1] c 44 N83-10494  
High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191
- PATIENTS**  
Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159
- PATTERN RECOGNITION**  
Surface roughness detector Patent  
[NASA-CASE-XLA-00203] c 14 N70-34161  
Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014  
Programmable pipelined image processor  
[NASA-CASE-NPO-16461-1CU] c 60 N86-23283  
Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301  
Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078
- PAYLOAD DELIVERY (STS)**  
Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469
- PAYLOAD DEPLOYMENT & RETRIEVAL SYSTEM**  
Payload deployment method and system  
[NASA-CASE-MSC-21330-1] c 16 N88-24660
- PAYLOAD RETRIEVAL (STS)**  
Simulator method and apparatus for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MFS-23052-2] c 74 N79-13855  
Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303
- PAYLOADS**  
Foam generator Patent  
[NASA-CASE-XLA-00838] c 03 N70-36778  
Spacecraft separation system for spinning vehicles and/or payloads Patent  
[NASA-CASE-XLA-02132] c 31 N71-10582  
Payload/burned-out motor case separation system Patent  
[NASA-CASE-XLA-05369] c 31 N71-15687  
Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692
- Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085  
Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c 14 N71-23227  
Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609
- PCM TELEMETRY**  
Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964  
Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255  
High speed direct binary-to-binary coded decimal converter  
[NASA-CASE-KSC-10326] c 08 N72-21197
- PEELING**  
Wire stripper  
[NASA-CASE-FRC-10111-1] c 37 N79-10419
- PEENING**  
Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550
- PELLETS**  
Support structure for irradiated elements Patent  
[NASA-CASE-XNP-06031] c 15 N71-15606  
Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940
- PELLIER EFFECTS**  
Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146  
Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604
- PELVIS**  
Shoulder and hip joints for hard space suits and the like  
[NASA-CASE-ARC-11534-1] c 54 N86-29507
- PENETRANTS**  
Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170
- PENETRATION**  
Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c 35 N74-32879  
Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137
- PENETROMETERS**  
Lunar penetrometer Patent  
[NASA-CASE-XLA-00934] c 14 N71-22765  
Self-recording portable soil penetrometer  
[NASA-CASE-MFS-20774] c 14 N73-19420  
Soil penetrometer  
[NASA-CASE-XNP-05530] c 14 N73-32321  
Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367  
Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443
- PERCEPTION**  
Method for measuring cutaneous sensory perception  
[NASA-CASE-MSC-13609-1] c 05 N72-25122
- PERFLUORO COMPOUNDS**  
Hydroxy terminated perfluoro ethers Patent  
[NASA-CASE-NPO-10768] c 06 N71-27254  
Perfluoro polyether acyl fluorides  
[NASA-CASE-NPO-10765] c 06 N72-20121  
Reaction of fluorine with polyperfluoropolyenes  
[NASA-CASE-NPO-10862] c 06 N72-22107  
Siphenylenesiloxane polymers having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c 06 N72-25151  
Polymers of perfluorobutadiene and method of manufacture  
[NASA-CASE-NPO-10863-2] c 06 N72-25152  
Polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c 06 N72-27144  
Polymerizable disilanol having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979-2] c 06 N73-32030  
Perfluoro alkylene dioxy-bis-(4-phthalic anhydrides and oxy-bis-(perfluoroalkyleneoxyphthalic anhydrides  
[NASA-CASE-MFS-22356-1] c 23 N75-30256  
Preparation of perfluorinated 1,2,4-oxadiazoles  
[NASA-CASE-ARC-11267-2] c 23 N82-28353  
High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523  
Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213  
Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744
- Perfluoro (Imidoylamidine) diamidines  
[NASA-CASE-ARC-11402-3] c 23 N86-21582
- PERFLUOROALKANE**  
Preparation of heterocyclic block copolymer omega-diamidoximes  
[NASA-CASE-ARC-11060-1] c 27 N79-22300
- PERFORATED PLATES**  
Process for glass coating an ion accelerator grid Patent  
[NASA-CASE-LEW-10278-1] c 15 N71-28582
- PERFORATED SHEETS**  
Method of fabricating an article with cavities --- with thin bottom walls  
[NASA-CASE-LAR-10318-1] c 31 N74-18089
- PERFORMANCE PREDICTION**  
Failure detection and control means for improved drift performance of a gimbalized platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175
- PERFORMANCE TESTS**  
Frangible electrochemical cell  
[NASA-CASE-XGS-10010] c 03 N72-15986  
Solar cell assembly test method  
[NASA-CASE-NPO-10401] c 03 N72-20033  
Linear explosive comparison  
[NASA-CASE-LAR-10800-1] c 33 N72-27959  
Split-cross-bridge resistor for testing for proper fabrication of integrated circuits  
[NASA-CASE-NPO-16021-1] c 33 N85-30187
- PERIODIC VARIATIONS**  
Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401
- PERIPHERAL EQUIPMENT (COMPUTERS)**  
Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MSC-20258-1] c 60 N84-28492
- PERISCOPES**  
Welding monitoring system  
[NASA-CASE-MFS-29177-1] c 37 N88-14362
- PERMEABILITY**  
Ionene membrane separator  
[NASA-CASE-NPO-11091] c 18 N72-22567  
System for detecting substructure microfractures and method therefore  
[NASA-CASE-NPO-14192-1] c 39 N80-10507  
Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687  
Geological assessment probe  
[NASA-CASE-NPO-14558-1] c 46 N80-24906
- PEROXIDES**  
Method of polymerizing perfluorobutadiene Patent application  
[NASA-CASE-NPO-10447] c 06 N70-11252
- PERSPIRATION**  
Method of making a perspiration resistant biopotential electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120  
Sweat collection capsule  
[NASA-CASE-ARC-11031-1] c 52 N81-29763
- PETURBATION**  
Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20597
- PETURBATION THEORY**  
Dual wavelength scanning Doppler velocimeter --- without perturbation of flow fields  
[NASA-CASE-ARC-10637-1] c 35 N75-16783
- PH FACTOR**  
Method for determining the point of zero zeta potential of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923
- PHASE COHERENCE**  
Signal phase estimator  
[NASA-CASE-NPO-11203] c 10 N72-20224  
Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c 32 N74-30523
- PHASE CONTRAST**  
Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037
- PHASE CONTROL**  
Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577  
Wideband VCO with high phase stability Patent  
[NASA-CASE-XLA-03893] c 10 N71-27271  
Induction motor control system with voltage controlled oscillator circuit  
[NASA-CASE-MFS-21465-1] c 10 N73-32145  
System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519  
Digital numerically controlled oscillator  
[NASA-CASE-MSC-16747-1] c 33 N81-17349  
Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345

- System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516  
Method and apparatus for self-calibration and phasing of array antenna  
[NASA-CASE-NPO-15920-1] c 33 N85-21493
- PHASE DEMODULATORS**  
Phase demodulation system with two phase locked loops  
Patent  
[NASA-CASE-XNP-00777] c 10 N71-19469  
Linear phase demodulator including a phase locked loop with auxiliary feedback loop  
[NASA-CASE-GSC-12018-1] c 33 N77-14334
- PHASE DETECTORS**  
Phase detector assembly Patent  
[NASA-CASE-XMF-00701] c 09 N70-40272  
Bi-polar phase detector and corrector for split phase PCM data signals Patent  
[NASA-CASE-XGS-01590] c 07 N71-12392  
High speed phase detector Patent  
[NASA-CASE-XNP-01306-2] c 09 N71-24596  
Phase protection system for ac power lines  
[NASA-CASE-MS-17832-1] c 33 N74-14956  
Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MFS-21671-1] c 33 N74-22885  
Correlation type phase detector --- with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c 33 N75-26243  
Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331  
Frequency discriminator and phase detector circuit  
[NASA-CASE-NPO-11515-1] c 33 N77-13315  
Phase substitution of spare converter for a failed one of parallel phase staggered converters  
[NASA-CASE-NPO-13812-1] c 33 N77-30365  
Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MS-16461-1] c 33 N79-11313  
High stability buffered phase comparator  
[NASA-CASE-GSC-12645-1] c 33 N84-16454  
Three phase power factor controller  
[NASA-CASE-MFS-25535-2] c 33 N84-22885  
Method and apparatus for receiving and tracking phase modulated signals  
[NASA-CASE-MS-16170-2] c 32 N84-27952  
Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975  
Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143  
Double reference pulsed phase locked loop  
[NASA-CASE-LAR-13310-1] c 32 N87-14559  
Method and apparatus for measuring frequency and phase difference  
[NASA-CASE-MS-20865-1] c 32 N87-18692
- PHASE DEVIATION**  
System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c 33 N74-17927
- PHASE LOCK DEMODULATORS**  
Compensating bandwidth switching transients in an amplifier circuit Patent  
[NASA-CASE-XNP-01107] c 10 N71-28859
- PHASE LOCKED SYSTEMS**  
Automatic acquisition system for phase-locked loop  
[NASA-CASE-XGS-04994] c 09 N69-21543  
Phase-locked loop with sideband rejecting properties Patent  
[NASA-CASE-XNP-02723] c 07 N70-41680  
Automatic frequency discriminators and control for a phase-locked loop providing frequency preset capabilities Patent  
[NASA-CASE-XMF-08665] c 10 N71-19467  
Burst synchronization detection system Patent  
[NASA-CASE-XMS-05605-1] c 10 N71-19468  
Phase demodulation system with two phase locked loops Patent  
[NASA-CASE-XNP-00777] c 10 N71-19469  
Diversity receiving system with diversity phase lock Patent  
[NASA-CASE-XGS-01222] c 10 N71-20841  
Phase locked phase modulator including a voltage controlled oscillator Patent  
[NASA-CASE-XNP-05382] c 10 N71-23544  
Video sync processor Patent  
[NASA-CASE-KSC-10002] c 10 N71-25865  
Transition tracking bit synchronization system  
[NASA-CASE-NPO-10844] c 07 N72-20140  
Data-aided carrier tracking loops  
[NASA-CASE-NPO-11282] c 10 N73-16205  
Filter for third order phase locked loops  
[NASA-CASE-NPO-11941-1] c 10 N73-27171  
Receiver with an improved phase lock loop in a multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c 07 N73-28012  
Automatic carrier acquisition system  
[NASA-CASE-NPO-11628-1] c 07 N73-30113

- Digital second-order phase-locked loop  
[NASA-CASE-NPO-11905-1] c 33 N74-12887  
Phase-locked servo system --- for synchronizing the rotation of slip ring assembly  
[NASA-CASE-MFS-22073-1] c 33 N75-13139  
Low speed phaselock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c 09 N75-24758  
Digital phase-locked loop  
[NASA-CASE-GSC-11623-1] c 33 N75-25040  
Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245  
Linear phase demodulator including a phase locked loop with auxiliary feedback loop  
[NASA-CASE-GSC-12018-1] c 33 N77-14334  
Frequency translating phase conjugation circuit for active retrodirective antenna array --- microwave transmission  
[NASA-CASE-NPO-14536-1] c 32 N81-14185  
PN lock indicator for dithered PN code tracking loop  
[NASA-CASE-NPO-14435-1] c 33 N81-33405  
Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539  
Pulsed phase locked loop strain monitor --- voltage controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626  
Double reference pulsed phase locked loop  
[NASA-CASE-LAR-13310-1] c 32 N87-14559  
Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960  
Processing circuit with asymmetry corrector and convolutional encoder for digital data  
[NASA-CASE-MS-20187-1] c 33 N87-25531  
Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302  
Digital phase-locked loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076
- PHASE MODULATION**  
Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763  
Adaptive tracking notch filter system Patent  
[NASA-CASE-XMF-01892] c 10 N71-22986  
Phase locked phase modulator including a voltage controlled oscillator Patent  
[NASA-CASE-XNP-05382] c 10 N71-23544  
Phase multiplying electronic scanning system Patent  
[NASA-CASE-NPO-10302] c 10 N71-26142  
Phase modulator Patent  
[NASA-CASE-MS-13201-1] c 07 N71-28429  
Two carrier communication system with single transmitter  
[NASA-CASE-NPO-11548] c 07 N73-26118  
Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c 32 N74-20811  
Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c 32 N75-24981  
Phase modulating with odd and even finite power series of a modulating signal  
[NASA-CASE-LAR-11607-1] c 32 N77-14292  
Sweep group delay measurement  
[NASA-CASE-NPO-13909-1] c 33 N78-25319  
Quadrature demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338  
Closed Loop solar array-ion thruster system with power control circuitry  
[NASA-CASE-LEW-12780-1] c 20 N79-20179  
Baseband signal combiner for large aperture antenna array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308  
Doppler radar having phase modulation of both transmitted and reflected return signals  
[NASA-CASE-MS-18675-1] c 32 N84-22820  
Method and apparatus for receiving and tracking phase modulated signals  
[NASA-CASE-MS-16170-2] c 32 N84-27952  
Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590
- PHASE SHIFT**  
Bi-polar phase detector and corrector for split phase PCM data signals Patent  
[NASA-CASE-XGS-01590] c 07 N71-12392  
Electromagnetic polarization systems and methods Patent  
[NASA-CASE-GSC-10021-1] c 09 N71-24595  
Method and apparatus for frequency-division multiplex communications by digital phase shift of carrier  
[NASA-CASE-NPO-11338] c 08 N72-25208  
Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338

- Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432  
JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515  
Double reference pulsed phase locked loop  
[NASA-CASE-LAR-13310-1] c 32 N87-14559  
Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390  
Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894  
Doppler radar with multiphase modulation of transmitted and reflected signal  
[NASA-CASE-MS-18808-1] c 32 N88-23923
- PHASE SHIFT CIRCUITS**  
Gyrator type circuit Patent  
[NASA-CASE-XAC-10608-1] c 09 N71-12517  
Phase shift circuit apparatus  
[NASA-CASE-ARC-10269-1] c 10 N72-16172  
Continuously variable voltage controlled phase shifter  
[NASA-CASE-NPO-11129] c 09 N72-33204  
Induction motor control system with voltage controlled oscillator circuit  
[NASA-CASE-MFS-21465-1] c 10 N73-32145  
Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MFS-21671-1] c 33 N74-22885  
Pseudonoise code tracking loop  
[NASA-CASE-MS-18035-1] c 32 N81-15179  
Fiber optic transmission line stabilization apparatus and method  
[NASA-CASE-NPO-15036-1] c 74 N82-19029
- PHASE SHIFT KEYING**  
Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c 32 N74-20811  
Differential phase shift keyed communication system  
[NASA-CASE-MS-14065-1] c 32 N74-26654  
Differential phase shift keyed signal resolver  
[NASA-CASE-MS-14066-1] c 33 N74-27705  
Unbalanced quadrature demodulator  
[NASA-CASE-MS-14840-1] c 32 N77-24331  
Method and apparatus for quadrature-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192  
Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570  
Doppler-corrected differential detection system  
[NASA-CASE-NPO-16987-1-CU] c 32 N88-30001
- PHASE SWITCHING INTERFEROMETERS**  
Radar antenna system for acquisition and tracking Patent  
[NASA-CASE-XMS-09610] c 07 N71-24625
- PHASE TRANSFORMATIONS**  
Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983  
Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635  
Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159
- PHASE VELOCITY**  
Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity  
[NASA-CASE-LAR-11435-1] c 35 N76-15432
- PHASED ARRAYS**  
Phase control circuits using frequency multiplications for phased array antennas  
[NASA-CASE-ERC-10285] c 10 N73-16206  
Phased array antenna control  
[NASA-CASE-MS-14939-1] c 32 N79-11264  
Phase conjugation method and apparatus for an active retrodirective antenna array  
[NASA-CASE-NPO-13641-1] c 32 N79-24210  
Coaxial phased array antenna  
[NASA-CASE-MS-16800-1] c 32 N81-14187  
Spiral slotted phased antenna array  
[NASA-CASE-MS-18532-1] c 32 N82-27558  
Method and apparatus for self-calibration and phasing of array antenna  
[NASA-CASE-NPO-15920-1] c 33 N85-21493  
Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390
- PHENOLIC RESINS**  
Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260  
Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909
- PHENOLS**  
Novel polymers and method of preparing same  
[NASA-CASE-NPO-10998-1] c 06 N73-32029



- Method and device for the detection of phenol and related compounds --- in an electrochemical cell  
[NASA-CASE-LEW-12513-1] c 25 N79-22235
- PHENYLS**  
The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312
- PHONOCARDIOGRAPHY**  
Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606  
Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234
- PHOSPHATES**  
Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047
- PHOSPHAZENE**  
Process for the preparation of polycarbonylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271  
Carbonylphosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389  
Carbonylmethylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750  
Maleimido substituted aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-1] c 23 N86-19376  
Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909  
Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692
- PHOSPHINES**  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MS-C-14903-1] c 27 N78-32256  
Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MS-C-14903-2] c 27 N80-10358  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MS-C-14903-3] c 27 N80-24438  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-18154  
Elastomer-modified phosphorus-containing imide resins  
[NASA-CASE-ARC-11400-1] c 27 N84-14322  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-2] c 27 N85-21347
- PHOSPHONITRILES**  
Metal containing polymers from cyclic tetrameric phenylphosphonitrimides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363
- PHOSPHORS**  
High contrast cathode ray tube  
[NASA-CASE-ERC-10468] c 09 N72-20206  
Thin wire pointing method  
[NASA-CASE-NPO-15769-1] c 31 N83-19947  
Flat-panel, full-color, electroluminescent display  
[NASA-CASE-LAR-13407-1] c 33 N87-28831
- PHOSPHORUS**  
Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019  
Fire-resistant phosphorus containing polyimides and copolyimides  
[NASA-CASE-ARC-11522-2] c 27 N85-34280
- PHOSPHORUS COMPOUNDS**  
Phosphorus-containing bisimide resins  
[NASA-CASE-ARC-11321-1] c 27 N81-27272  
Polymer of phosphonylmethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525  
The 1-((diorganoxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605
- PHOSPHORUS POLYMERS**  
Process for the preparation of polycarbonylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271  
Carbonylphosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-2] c 27 N85-21347
- PHOTOABSORPTION**  
Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400
- PHOTOCATHODES**  
Photoelectric energy spectrometer Patent  
[NASA-CASE-XNP-04161] c 14 N71-15599  
III-V photocathode with nitrogen doping for increased quantum efficiency  
[NASA-CASE-NPO-12134-1] c 33 N76-31409
- PHOTOCHEMICAL REACTIONS**  
Apparatus for photon excited catalysis  
[NASA-CASE-NPO-13566-1] c 25 N77-32255
- Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148  
Vitra-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MS-C-16074-1] c 27 N80-26446
- PHOTOCONDUCTIVE CELLS**  
Two-dimensional radiant energy array computers and computing devices  
[NASA-CASE-GSC-11839-1] c 60 N77-14751  
Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913  
Photocapacitive image converter  
[NASA-CASE-LAR-12513-1] c 44 N82-32841
- PHOTOCONDUCTIVITY**  
Photoetching of metal-oxide layers  
[NASA-CASE-ERC-10108] c 06 N72-21094
- PHOTOCONDUCTORS**  
Electronic divider and multiplier using photocells Patent  
[NASA-CASE-XFR-05637] c 09 N71-19480
- PHOTODIODES**  
Shock isolator for operating a diode laser on a closed-cycle refrigerator  
[NASA-CASE-GSC-12297-1] c 37 N79-28549  
Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139
- PHOTODISSOCIATION**  
Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148
- PHOTOELECTRIC CELLS**  
Sun tracker with rotatable plane-parallel plate and two photocells Patent  
[NASA-CASE-XGS-01159] c 21 N71-10678  
Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c 91 N74-13130  
Noncontacting method for measuring angular deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138  
Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545
- PHOTOELECTRIC EFFECT**  
Photoelectric energy spectrometer Patent  
[NASA-CASE-XNP-04161] c 14 N71-15599
- PHOTOELECTRIC EMISSION**  
High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877
- PHOTOELECTRIC MATERIALS**  
Light radiation direction indicator with a baffle of two parallel grids  
[NASA-CASE-XNP-03930] c 14 N69-24331  
Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c 35 N74-15090  
Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019  
Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475
- PHOTOELECTRICITY**  
Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019
- PHOTOELECTROCHEMICAL DEVICES**  
Photoelectrochemical electrodes  
[NASA-CASE-NPO-15458-1] c 25 N84-12262  
Method for determining the point of zero zeta potential of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923
- PHOTOELECTRON SPECTROSCOPY**  
Photoelectron spectrometer with means for stabilizing sample surface potential  
[NASA-CASE-NPO-13772-1] c 35 N78-10429  
High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877  
Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659
- PHOTOGRAPHIC EMULSIONS**  
Method for applying photographic resists to otherwise incompatible substrates  
[NASA-CASE-MS-C-18107-1] c 27 N81-25209  
Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432
- PHOTOGRAPHIC EQUIPMENT**  
Apparatus and method for protecting a photographic device Patent  
[NASA-CASE-NPO-10174] c 14 N71-18465  
Method of treating the surface of a glass member  
[NASA-CASE-GSC-12110-1] c 27 N77-32308  
System for forming a quadrified image comprising angularly related fields of view of a three dimensional object  
[NASA-CASE-NPO-14219-1] c 74 N81-17886
- PHOTOGRAPHIC FILM**  
Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935  
Exposure interlock for oscilloscope cameras  
[NASA-CASE-LAR-10319-1] c 14 N73-32322  
Optical noise suppression device and method --- laser light exposing film  
[NASA-CASE-MS-C-12640-1] c 74 N76-31998  
Selective image area control of X-ray film exposure density  
[NASA-CASE-NPO-13808-1] c 35 N78-15461  
Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432  
Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416
- PHOTOGRAPHIC MEASUREMENT**  
Means and method of measuring viscoelastic strain Patent  
[NASA-CASE-XNP-01153] c 32 N71-17645  
Impact measuring technique  
[NASA-CASE-LAR-10913] c 14 N72-16282  
TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c 39 N78-16387
- PHOTOGRAPHIC PROCESSING**  
Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932  
Method of obtaining intensified image from developed photographic films and plates  
[NASA-CASE-MFS-23461-1] c 35 N79-10389
- PHOTOGRAPHIC PROCESSING EQUIPMENT**  
Drying apparatus for photographic sheet material  
[NASA-CASE-GSC-11074-1] c 14 N73-28489
- PHOTOGRAPHIC RECORDING**  
Method of obtaining permanent record of surface flow phenomena Patent  
[NASA-CASE-XLA-01353] c 14 N70-41366  
Focused image holography with extended sources Patent  
[NASA-CASE-ERC-10019] c 16 N71-15551  
Recording and reconstructing focused image holograms Patent  
[NASA-CASE-ERC-10017] c 16 N71-15567  
Method and means for recording and reconstructing holograms without use of a reference beam Patent  
[NASA-CASE-ERC-10020] c 16 N71-26154  
Multiple image storing system for high speed projectile holography  
[NASA-CASE-MFS-20596] c 14 N72-17324  
Phototropic composition of matter  
[NASA-CASE-XGS-03736] c 14 N72-22443  
Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c 25 N74-18551
- PHOTOGRAPHY**  
System for forming a quadrified image comprising angularly related fields of view of a three dimensional object  
[NASA-CASE-NPO-14219-1] c 74 N81-17886  
Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874
- PHOTOIONIZATION**  
A multichannel photoionization chamber for absorption analysis Patent  
[NASA-CASE-ERC-10044-1] c 14 N71-27090
- PHOTOLYSIS**  
Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c 44 N77-32580  
Solar photolysis of water  
[NASA-CASE-NPO-14126-1] c 44 N79-11470
- PHOTOMAPPING**  
Window defect planar mapping technique  
[NASA-CASE-MS-C-19442-1] c 74 N77-10899
- PHOTOMASKS**  
Method for applying photographic resists to otherwise incompatible substrates  
[NASA-CASE-MS-C-18107-1] c 27 N81-25209
- PHOTOMECHANICAL EFFECT**  
Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400

## PHOTOMETERS

- Interferometer direction sensor Patent  
[NASA-CASE-NPO-10320] c 14 N71-17655
- Method and device for determining battery state of charge Patent  
[NASA-CASE-NPO-10194] c 03 N71-20407
- Light position locating system Patent  
[NASA-CASE-XNP-01059] c 23 N71-21821
- Fluid flow meter with comparator reference means Patent  
[NASA-CASE-XGS-01331] c 14 N71-22996
- Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409
- Infrared detectors  
[NASA-CASE-LAR-10728-1] c 14 N73-12445
- Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
[NASA-CASE-ARC-10633-1] c 25 N74-26947
- The 2 deg/90 deg laboratory scattering photometer --- particulate refractivity in hydrosols  
[NASA-CASE-GSC-12088-1] c 74 N78-13874
- Magneto-optic detection system with noise cancellation  
[NASA-CASE-NPO-11954-1] c 35 N78-29421

## PHOTOMICROGRAPHY

- Stereophotomicrography system  
[NASA-CASE-LAR-10176-1] c 14 N72-20380
- Hand-held photomicroscope  
[NASA-CASE-ARC-10468-1] c 14 N73-33361
- Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594

## PHOTOMULTIPLIER TUBES

- Canopus detector including automotive gain control of photomultiplier tube Patent  
[NASA-CASE-XNP-03914] c 21 N71-10771
- Electronic divider and multiplier using photocells Patent  
[NASA-CASE-XFR-05637] c 09 N71-19480
- Coincidence apparatus for detecting particles  
[NASA-CASE-XLA-07813] c 14 N72-17328
- Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT  
[NASA-CASE-LAR-10320-1] c 09 N72-23172
- Light direction sensor  
[NASA-CASE-NPO-11201] c 14 N72-27409
- Photomultiplier circuit including means for rapidly reducing the sensitivity thereof --- and protection from radiation damage  
[NASA-CASE-ARC-10593-1] c 33 N74-27682

## PHOTON BEAMS

- Apparatus for photon excited catalysis  
[NASA-CASE-NPO-13566-1] c 25 N77-32255

## PHOTON-ELECTRON INTERACTION

- Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767

## PHOTONS

- Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527
- Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767
- Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127

## PHOTOSENSITIVITY

- Photosensitive device to detect bearing deviation Patent  
[NASA-CASE-XNP-00438] c 21 N70-35089
- Solar optical telescope dome control system Patent  
[NASA-CASE-MS-C-10966] c 14 N71-19568
- Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT  
[NASA-CASE-LAR-10320-1] c 09 N72-23172
- Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946
- Apparatus for calibrating an image dissector tube  
[NASA-CASE-MFS-22208-1] c 33 N75-26244
- Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019
- Liquid crystal light valve structures  
[NASA-CASE-MS-C-20036-1] c 76 N85-33826
- Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

## PHOTOTRANSISTORS

- Phototransistor imaging system  
[NASA-CASE-MFS-20809] c 23 N73-13660
- Phototransistor  
[NASA-CASE-MFS-20407] c 09 N73-19235

## PHOTOTROPISM

- Phototropic composition of matter  
[NASA-CASE-XGS-03736] c 14 N72-22443

## PHOTOVISCOELASTICITY

- Means and method of measuring viscoelastic strain Patent  
[NASA-CASE-XNP-01153] c 32 N71-17645

## PHOTOVOLTAIC CELLS

- Plurality of photosensitive cells on a pyramidal base for planetary trackers  
[NASA-CASE-XNP-04180] c 07 N69-39736
- Light sensitive digital aspect sensor Patent  
[NASA-CASE-XGS-00359] c 14 N70-34158
- Method of using photovoltaic cell using poly-N-vinylcarbazole complex Patent  
[NASA-CASE-NPO-10373] c 03 N71-18698
- Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c 35 N74-15090
- Photovoltaic cell array  
[NASA-CASE-MFS-22458-1] c 44 N77-10635
- Solar cells having integral collector grids  
[NASA-CASE-LEW-12819-1] c 44 N79-11467
- Double-sided solar cell package  
[NASA-CASE-NPO-14199-1] c 44 N79-25482
- Method of construction of a multi-cell solar array  
[NASA-CASE-MFS-23540-1] c 44 N79-26475
- Solar cell with improved N-region contact and method of forming the same  
[NASA-CASE-NPO-14205-1] c 44 N79-31752
- Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550
- Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558
- Efficiency of silicon solar cells containing chromium  
[NASA-CASE-NPO-15179-1] c 44 N82-26777
- Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709
- High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764
- Heat transparent high intensity high efficiency solar cell  
[NASA-CASE-LEW-12892-1] c 44 N83-14692
- Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311
- Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232
- Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113
- Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475
- Thermionic photovoltaic energy converter  
[NASA-CASE-LEW-14077-1] c 44 N85-34441
- GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150
- Method of making macrocrystalline or single crystal semiconductor material  
[NASA-CASE-NPO-15904-1] c 76 N86-28760

## PHOTOVOLTAIC CONVERSION

- Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019

## PHOTOVOLTAIC EFFECT

- System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MS-C-12259-1] c 07 N70-12616
- Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c 35 N74-15090
- Thermionic photovoltaic energy converter  
[NASA-CASE-LEW-14077-1] c 44 N85-34441

## PHTHALATES

- Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043

## PHTHALOCYANIN

- Metal phthalocyanine polymers  
[NASA-CASE-ARC-11405-1] c 27 N84-27884
- Phthalocyanine polymers  
[NASA-CASE-ARC-11413-1] c 27 N85-21348
- Metal (2) 4,4',4'' phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455
- Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112

## PHYSICAL EXERCISE

- Restraint system for ergometer  
[NASA-CASE-MFS-21046-1] c 14 N73-27377
- Tilting table for ergometer and for other biomedical devices  
[NASA-CASE-MFS-21010-1] c 05 N73-30078
- Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c 37 N74-18127
- Therapeutic hand exerciser  
[NASA-CASE-LAR-11667-1] c 52 N76-19785

## PHYSICAL PROPERTIES

- Polyurethanes of fluorine containing polycarbonates  
[NASA-CASE-MFS-10512] c 06 N73-30099
- System for monitoring physical characteristics of fluids  
[NASA-CASE-NPO-15400-1] c 34 N83-31993

## PHYSIOLOGICAL EFFECTS

- Restraint torso for a pressurized suit  
[NASA-CASE-MS-C-12397-1] c 05 N72-25119

## PHYSIOLOGICAL TESTS

- Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MS-C-14180-1] c 52 N76-14757

## PHYSIOLOGY

- Phonocardiograph transducer Patent  
[NASA-CASE-XMS-05365] c 14 N71-22993
- Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c 51 N76-29891

## PIERCING

- Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996

## PIEZOELECTRIC CRYSTALS

- Miniature stress transducer Patent  
[NASA-CASE-XNP-02983] c 14 N71-21091
- Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c 33 N74-20962
- CDS solid state phase insensitive ultrasonic transducer --- annealing cadmium sulfide crystals  
[NASA-CASE-LAR-12304-1] c 35 N80-20559

## PIEZOELECTRIC TRANSDUCERS

- Force transducer Patent  
[NASA-CASE-XAC-01101] c 14 N70-41957
- Microbalance including crystal oscillators for measuring contaminants in a gas system Patent  
[NASA-CASE-NPO-10144] c 14 N71-17701
- Phonocardiograph transducer Patent  
[NASA-CASE-XMS-05365] c 14 N71-22993
- Semiconductor transducer device  
[NASA-CASE-ERC-10087-2] c 14 N72-31446
- Length mode piezoelectric ultrasonic transducer for inspection of solid objects  
[NASA-CASE-MS-C-19672-1] c 38 N79-14398
- Piezoelectric deicing device  
[NASA-CASE-LEW-13773-2] c 33 N86-20671

## PIEZOELECTRICITY

- Missile stage separation indicator and stage initiator Patent  
[NASA-CASE-XLA-00791] c 03 N70-39930
- Piezoelectric pump Patent  
[NASA-CASE-XNP-05429] c 26 N71-21824
- Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334
- Piezoelectric composite materials  
[NASA-CASE-LEW-12582-1] c 76 N83-34796

## PIEZORESISTIVE TRANSDUCERS

- Miniature stress transducer Patent  
[NASA-CASE-XNP-02983] c 14 N71-21091
- Transverse piezoresistance and pinch effect electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490

## PIGMENTS

- Stabilized zinc oxide coating compositions Patent  
[NASA-CASE-XMF-07770-2] c 18 N71-26772

## PILOT TRAINING

- Controlled visibility device for an aircraft Patent  
[NASA-CASE-XFR-04147] c 11 N71-10748
- Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c 09 N75-15662

## PILOTS (PERSONNEL)

- System for indicating direction of intruder aircraft  
[NASA-CASE-ERC-10226-1] c 14 N73-16483

## PINCH EFFECT

- Toggle mechanism for pinching metal tubes  
[NASA-CASE-GSC-12274-1] c 37 N79-28550

## PINHOLE CAMERAS

- Three-dimensional and tomographic imaging device for X-ray and gamma-ray emitting objects  
[NASA-CASE-GSC-12851-1] c 35 N85-30281

## PINS

- Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505
- Turbo-machine blade vibration damper Patent  
[NASA-CASE-XLE-00155] c 28 N71-29154
- Safety-type locking pin  
[NASA-CASE-MFS-18495] c 15 N72-11385
- Self-locking double retention redundant full pin release  
[NASA-CASE-NPO-16233-1] c 37 N86-20801

## PINTLES

- Metal valve pintle with encapsulated elastomeric body Patent  
[NASA-CASE-MS-C-12116-1] c 15 N71-17648

## PIPE FLOW

- Flat-plate heat pipe  
[NASA-CASE-GSC-11998-1] c 34 N77-32413

Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180

Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1-CU] c 31 N88-24814

**PIPELINES**

Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937

**PIPELINING (COMPUTERS)**

Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651

Programmable pipelined image processor  
[NASA-CASE-NPO-16461-1-CU] c 60 N86-23283

Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1-CU] c 60 N86-24224

Real time pipelined system for forming the sum of products in the processing of video data  
[NASA-CASE-NPO-16462-1-CU] c 60 N88-24169

**PIPES (TUBES)**

Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785

Piping arrangement through a double chamber structure  
[NASA-CASE-XNP-08882] c 15 N69-39935

Foldable conduit Patent  
[NASA-CASE-XLE-00620] c 32 N70-41579

Thermobulb mount Patent  
[NASA-CASE-NPO-10158] c 33 N71-16356

Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114] c 15 N71-17650

Sealed separable connection Patent  
[NASA-CASE-NPO-10064] c 15 N71-17693

Electrical switching device Patent  
[NASA-CASE-NPO-10037] c 09 N71-19610

Tube dimpling tool Patent  
[NASA-CASE-XMS-06876] c 15 N71-21536

Plasma device feed system Patent  
[NASA-CASE-XLE-02902] c 25 N71-21694

Spin forming tubular elbows Patent  
[NASA-CASE-XMF-01083] c 15 N71-22723

Portable milling tool Patent  
[NASA-CASE-XMF-03511] c 15 N71-22799

Internal flare angle gauge Patent  
[NASA-CASE-XMF-04415] c 14 N71-24693

Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-3] c 15 N71-24865

Weld preparation machine Patent  
[NASA-CASE-XKS-07953] c 15 N71-26134

Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148

Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191

Tube fabricating process  
[NASA-CASE-LAR-10203-1] c 15 N72-16330

Torsional disconnect unit  
[NASA-CASE-NPO-10704] c 15 N72-20445

Open type urine receptacle  
[NASA-CASE-MSC-12324-1] c 05 N72-22093

Method for measuring cutaneous sensory perception  
[NASA-CASE-MSC-13609-1] c 05 N72-25122

Low mass truss structure  
[NASA-CASE-LAR-10546-1] c 11 N72-25287

Honeycomb panels formed of minimal surface periodic tubule layers  
[NASA-CASE-ERC-10364] c 18 N72-25540

Honeycomb core structures of minimal surface tubule sections  
[NASA-CASE-ERC-10363] c 18 N72-25541

Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c 06 N73-13129

Cable restraint  
[NASA-CASE-LAR-10129-1] c 15 N73-25512

Method of fabricating a twisted composite superconductor  
[NASA-CASE-LEW-11015] c 26 N73-32571

Open tube guideway for high speed air cushioned vehicles  
[NASA-CASE-LAR-10256-1] c 85 N74-34672

Method for fabricating a mass spectrometer inlet leak  
[NASA-CASE-GSC-12077-1] c 35 N77-24455

Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491

Open ended tubing cutters  
[NASA-CASE-MSC-18538-1] c 37 N82-26672

Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095

Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085

Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756

Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736

Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613

Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255

Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977

Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672

Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359

**PISTON ENGINES**

Stirling cycle engine and refrigeration systems  
[NASA-CASE-NPO-13613-1] c 37 N76-29590

Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370

Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640

Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574

**PISTONS**

Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042

Firefly pump-metering system  
[NASA-CASE-GSC-10218-1] c 15 N72-21465

Collapsible pistons  
[NASA-CASE-MSC-13789-1] c 11 N73-32152

Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c 02 N74-20646

Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790

Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-14318

Multiple plate hydrostatic viscous damper  
[NASA-CASE-LEW-12445-1] c 37 N81-22360

Gas-to-hydraulic power converter  
[NASA-CASE-MSC-18794-1] c 44 N83-14693

Centrifugal-reciprocating compressor  
[NASA-CASE-NPO-14597-2] c 37 N84-28081

Lightweight piston  
[NASA-CASE-LAR-13150-1] c 24 N87-27742

Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981

**PITCH (INCLINATION)**

Reverse pitch fan with divided splitter  
[NASA-CASE-LEW-12780-1] c 07 N77-17059

Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106

Pitch attitude stabilization system utilizing engine pressure ratio feedback signals  
[NASA-CASE-LAR-12562-1] c 08 N81-26152

Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631

**PITCHING MOMENTS**

High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

**PIVOTS**

Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878

Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492

Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605

Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288

**PLANAR STRUCTURES**

Window defect planar mapping technique  
[NASA-CASE-MSC-19442-1] c 74 N77-10899

Method and apparatus for preparing multiconductor cable with flat conductors  
[NASA-CASE-MFS-10946-1] c 31 N79-21226

High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764

**PLANE WAVES**

Multiple reflection conical microwave antenna  
[NASA-CASE-NPO-11661] c 07 N73-14130

**PLANETARY ATMOSPHERES**

Method of planetary atmospheric investigation using a split-trajectory dual flyby mode Patent  
[NASA-CASE-XAC-08494] c 30 N71-15990

Flow field simulation Patent  
[NASA-CASE-LAR-11138] c 12 N71-20436

Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991

**PLANETARY GRAVITATION**

Impact simulator Patent  
[NASA-CASE-XLA-00493] c 11 N70-34786

Means for visually indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394

**PLANETARY LANDING**

Parachute glider Patent  
[NASA-CASE-XLA-00898] c 02 N70-36804

Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085

**PLANETARY ORBITS**

Flexible foam erectable space structures Patent  
[NASA-CASE-XLA-00686] c 31 N70-34135

Erectable modular space station Patent  
[NASA-CASE-XLA-00678] c 31 N70-34296

**PLANETARY RADIATION**

Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880

**PLANETARY SURFACES**

Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118

**PLANTS (BOTANY)**

Rotary plant growth accelerating apparatus --- weightlessness  
[NASA-CASE-ARC-10722-1] c 51 N75-25503

Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261

Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045

**PLASMA ACCELERATION**

Apparatus for increasing ion engine beam density Patent  
[NASA-CASE-XLE-00519] c 28 N70-41576

Coaxial high density, hypervelocity plasma generator and accelerator with ionizable metal disc  
[NASA-CASE-MFS-20589] c 25 N72-32688

**PLASMA ACCELERATORS**

Plasma accelerator Patent  
[NASA-CASE-XLA-00675] c 25 N70-33267

Continuously operating induction plasma accelerator Patent  
[NASA-CASE-XLA-01354] c 25 N70-36946

Crossed-field MHD plasma generator/ accelerator Patent  
[NASA-CASE-XLA-03374] c 25 N71-15562

Self-repeating plasma generator having communicating annular and linear arc discharge passages Patent  
[NASA-CASE-XLA-03103] c 25 N71-21693

Magnetically controlled plasma accelerator Patent  
[NASA-CASE-XLA-00327] c 25 N71-29184

Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MFS-22287-1] c 75 N76-14931

**PLASMA ARC WELDING**

ARC length control for plasma welding  
[NASA-CASE-MSC-20900-1] c 37 N88-30131

**PLASMA CONTROL**

Superconductive magnetic field trapping device  
[NASA-CASE-XNP-01185] c 26 N73-28710

Self-energized plasma compressor --- for compressing plasma discharged from coaxial plasma generator  
[NASA-CASE-MFS-22145-1] c 75 N75-13625

**PLASMA CYLINDERS**

Plasma fluidic hybrid display Patent  
[NASA-CASE-ERC-10100] c 09 N71-33519

**PLASMA DENSITY**

Focussing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618

Measurement of plasma temperature and density using radiation absorption  
[NASA-CASE-ARC-10598-1] c 75 N74-30156

Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491

**PLASMA DIAGNOSTICS**

Probes having ring and primary sensor at same potential to prevent collection of stray wall currents in ionized gases  
[NASA-CASE-XLE-00690] c 25 N69-39884

Apparatus for measuring conductivity and velocity of plasma utilizing a plurality of sensing coils positioned in the plasma Patent  
[NASA-CASE-XAC-05695] c 25 N71-16073

Measurement of plasma temperature and density using radiation absorption  
[NASA-CASE-ARC-10598-1] c 75 N74-30156

Trochoidal analysis of scattered electrons in a merged electron-ion beam  
[NASA-CASE-NPO-16789-1-CU] c 72 N88-25281

**PLASMA DYNAMICS**

Apparatus for measuring conductivity and velocity of plasma utilizing a plurality of sensing coils positioned in the plasma Patent  
[NASA-CASE-XAC-05695] c 25 N71-16073

Self-energized plasma compressor --- for compressing plasma discharged from coaxial plasma generator  
[NASA-CASE-MFS-22145-1] c 75 N75-13625

## PLASMA ENGINES

## PLASMA ENGINES

Plasma device feed system Patent  
[NASA-CASE-XLE-02902] c 25 N71-21694

## PLASMA GENERATORS

Method and apparatus for producing a plasma Patent  
[NASA-CASE-XLA-00147] c 25 N70-34661  
Crossed-field MHD plasma generator/ accelerator  
Patent  
[NASA-CASE-XLA-03374] c 25 N71-15562  
Coaxial high density, hypervelocity plasma generator and  
accelerator with ionizable metal disc  
[NASA-CASE-MFS-20589] c 25 N72-32688  
Self-energized plasma compressor --- for compressing  
plasma discharged from coaxial plasma generator  
[NASA-CASE-MFS-22145-1] c 75 N75-13625  
Self-energized plasma compressor  
[NASA-CASE-MFS-22145-2] c 75 N76-17951  
Continuous plasma laser --- method and apparatus for  
producing intense, coherent, monochromatic light from low  
temperature plasma  
[NASA-CASE-XNP-04167-3] c 36 N77-19416

## PLASMA GUNS

Method of making a diffusion bonded refractory coating  
Patent  
[NASA-CASE-XLE-01604-2] c 15 N71-15610

## PLASMA JETS

Method of preparing water purification membranes ---  
polymerization of allyl amine as thin films in plasma  
discharge  
[NASA-CASE-ARC-10643-1] c 25 N75-12087  
Combination automatic-starting electrical plasma torch  
and gas shutoff valve --- for satellite attitude control  
[NASA-CASE-XLE-10717] c 37 N75-29426  
Plasma cleaning device --- designed for high vacuum  
environments  
[NASA-CASE-MFS-22906-1] c 75 N78-27913

## PLASMA LAYERS

Electrostatic plasma modulator for space vehicle  
re-entry communication Patent  
[NASA-CASE-XLA-01400] c 07 N70-41331  
Means for communicating through a layer of ionized  
gases Patent  
[NASA-CASE-XLA-01127] c 07 N70-41372  
Reentry communication by material addition Patent  
[NASA-CASE-XLA-01552] c 07 N71-11284

## PLASMA POTENTIALS

Method and apparatus for neutralizing potentials induced  
on spacecraft surfaces  
[NASA-CASE-GSC-11963-1] c 33 N77-10429

## PLASMA PROBES

Probes having ring and primary sensor at same potential  
to prevent collection of stray wall currents in ionized  
gases  
[NASA-CASE-XLE-00690] c 25 N69-39884  
Small plasma probe Patent  
[NASA-CASE-XLE-02578] c 25 N71-20747

## PLASMA PROPULSION

Method of making dished ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310  
Ring-cusp ion thruster with shell anode  
[NASA-CASE-LEW-13881-1] c 20 N85-21256

## PLASMA RADIATION

Means for measuring the electron density gradients of  
the plasma sheath formed around a space vehicle  
Patent  
[NASA-CASE-XLA-06232] c 25 N71-20563  
Continuous plasma light source  
[NASA-CASE-XNP-04167-2] c 25 N72-24753

## PLASMA SHEATHS

Apparatus for measuring electric field strength on the  
surface of a model vehicle Patent  
[NASA-CASE-XLE-02038] c 09 N71-16086  
Means for measuring the electron density gradients of  
the plasma sheath formed around a space vehicle  
Patent  
[NASA-CASE-XLA-06232] c 25 N71-20563

## PLASMA SPRAYING

Method of coating carbonaceous base to prevent  
oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00302] c 15 N71-16077  
Fully plasma-sprayed compliant backed ceramic turbine  
seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674  
Fully plasma-sprayed compliant backed ceramic turbine  
seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453  
Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233

## PLASMA TEMPERATURE

Measurement of plasma temperature and density using  
radiation absorption  
[NASA-CASE-ARC-10598-1] c 75 N74-30156

## PLASMA-ELECTROMAGNETIC INTERACTION

Plasma igniter for internal combustion engine  
[NASA-CASE-NPO-13828-1] c 37 N79-11405

## PLASMAS (PHYSICS)

Apparatus for measuring conductivity and velocity of  
plasma utilizing a plurality of sensing coils positioned in  
the plasma Patent  
[NASA-CASE-XAC-05695] c 25 N71-16073  
Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491

## PLASMONS

Inelastic tunnel diodes  
[NASA-CASE-LEW-13833-1] c 33 N85-21492  
Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768

## PLASTIC COATINGS

Coating process  
[NASA-CASE-XNP-06508] c 18 N69-39895  
Apparatus and method for skin packaging articles  
[NASA-CASE-MFS-20855] c 15 N73-27405  
Silicon nitride coated, plastic covered solar cell  
[NASA-CASE-LEW-11496-1] c 44 N77-14580  
Oxygen post-treatment of plastic surface coated with  
plasma polymerized silicon-containing monomers  
[NASA-CASE-ARC-10915-2] c 27 N79-18052  
Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708  
Process for preparing highly optically  
transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727

## PLASTIC DEFORMATION

Light intensity strain analysis  
[NASA-CASE-LAR-10765-1] c 32 N73-20740  
Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170

## PLASTIC TAPES

Thermocouple tape  
[NASA-CASE-LEW-11072-1] c 14 N73-24472

## PLASTICIZERS

Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530  
Tackifier for addition polyimides containing  
monoethylphthalate  
[NASA-CASE-LAR-12642-1] c 27 N81-29229  
Method of bonding plasticized elastomer to metal and  
articles produced thereby  
[NASA-CASE-MFS-25181-1] c 27 N82-24340  
Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708

## PLASTICS

Method for forming plastic materials Patent  
[NASA-CASE-XMS-05516] c 15 N71-17803  
Method of making inflatable honeycomb Patent  
[NASA-CASE-XLA-03492] c 15 N71-22713  
Sealing member and combination thereof and method  
of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022  
Dielectric molding apparatus Patent  
[NASA-CASE-LAR-10121-1] c 15 N71-26721  
Radar calibration sphere  
[NASA-CASE-XLA-11154] c 07 N72-21117  
Molding apparatus --- for thermosetting plastic  
compositions  
[NASA-CASE-LAR-10489-2] c 31 N74-32920  
Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315

## PLATENS

Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312

## PLATES (STRUCTURAL MEMBERS)

Foil seal  
[NASA-CASE-XLE-05130] c 15 N69-21362  
Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477  
Microwave dichroic plate  
[NASA-CASE-GSC-12171-1] c 33 N79-28416  
Floating nut retention system  
[NASA-CASE-MSC-16938-1] c 37 N80-23653  
Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630  
Method and apparatus for making an optical element  
having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416

## PLATING

Selective plating of etched circuits without removing  
previous plating Patent  
[NASA-CASE-XGS-03120] c 15 N71-24047  
Peen plating  
[NASA-CASE-GSC-11163-1] c 15 N73-32360  
Scanning nozzle plating system --- for etching or plating  
metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c 31 N74-23065  
Method for depositing an oxide coating  
[NASA-CASE-LEW-13131-1] c 44 N83-10494

## PLATINUM

Electrolytic cell structure  
[NASA-CASE-LAR-11042-1] c 33 N75-27252  
Platinum resistance thermometer circuit  
[NASA-CASE-MSC-12327-1] c 35 N77-27368

## PLATINUM ALLOYS

Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338

## PLAYBACKS

Method of and means for testing a tape record/playback  
system  
[NASA-CASE-MFS-22671-2] c 35 N77-17426  
Thermomagnetic recording and magnetic-optic playback  
system  
[NASA-CASE-NPO-10872-1] c 35 N79-16246

## PLENUM CHAMBERS

Air cushion lift pad Patent  
[NASA-CASE-MFS-14685] c 31 N71-15689  
Gas filter mounting structure  
[NASA-CASE-MSC-12297] c 14 N72-23457  
Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605  
Sonic levitation apparatus  
[NASA-CASE-MFS-25828-1] c 71 N84-28568

## PLETHYSMOGRAPHY

Readout electrode assembly for measuring biological  
impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525  
Apparatus for determining changes in limb volume  
[NASA-CASE-MSC-18759-1] c 52 N83-27578

## PLOTTERS

Automated equipotential plotter  
[NASA-CASE-NPO-11134] c 09 N72-21246  
Apparatus and method for determining the position of  
a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341

## PLOTING

Instrument for measuring potentials on two dimensional  
electric field plots Patent  
[NASA-CASE-XLA-08493] c 10 N71-19421

## PLUG NOZZLES

Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117  
Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873

## PLUGS

Rocket chamber leak test fixture  
[NASA-CASE-XFR-09479] c 14 N69-27503  
Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505  
Gas regulator Patent  
[NASA-CASE-NPO-10298] c 12 N71-17661  
Heated porous plug microthruster  
[NASA-CASE-GSC-10640-1] c 28 N72-18766  
High temperature penetrator assembly with bayonet plug  
and ramp-activated lock  
[NASA-CASE-MSC-18526-1] c 37 N82-24494  
Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974  
Porous plug for reducing orifice induced pressure error  
in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841

## PNEUMATIC CONTROL

Pneumatic system for controlling and actuating  
pneumatic cyclic devices  
[NASA-CASE-XMS-04843] c 03 N69-21469  
Pneumatic mirror support system  
[NASA-CASE-XLA-03271] c 11 N69-24321  
Valve actuator Patent  
[NASA-CASE-XHQ-01208] c 15 N70-35409  
Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975  
Foot pedal operated fluid type exercising device  
[NASA-CASE-MSC-11561-1] c 05 N73-32014  
Pneumatic load compensating or controlling system  
[NASA-CASE-ARC-10907-1] c 37 N75-32465

## PNEUMATIC EQUIPMENT

High pressure air valve Patent  
[NASA-CASE-MSC-11010] c 15 N71-19485  
Inflatable support structure Patent  
[NASA-CASE-XLA-01731] c 32 N71-21045  
Apparatus for purging systems handling toxic, corrosive,  
noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089  
Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c 14 N71-23227  
Pneumatic amplifier Patent  
[NASA-CASE-MSC-12121-1] c 15 N71-27147  
Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c 02 N73-26006  
Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136  
Pneumatic load compensating or controlling system  
[NASA-CASE-ARC-10907-1] c 37 N75-32465  
Gas-to-hydraulic power converter  
[NASA-CASE-MSC-18794-1] c 44 N83-14693  
System and method for moving a probe to follow  
movements of tissue  
[NASA-CASE-NPO-15197-1] c 52 N83-25346

- Apparatus for improving the fuel efficiency of a gas turbine engine  
 [NASA-CASE-LEW-13142-1] c 07 N83-36029  
 Inflatable device for installing strain gage bridges  
 [NASA-CASE-FRC-11068-1] c 35 N84-12443  
 Method for improving the fuel efficiency of a gas turbine engine  
 [NASA-CASE-LEW-13142-2] c 07 N86-20389  
 Space probe/satellite ejection apparatus for spacecraft  
 [NASA-CASE-MFS-25429-1] c 18 N86-20469

**POINT SOURCES**

- Electronic background suppression method and apparatus for a field scanning sensor  
 [NASA-CASE-XGS-05211] c 07 N69-39980  
 X-ray reflection collimator adapted to focus X-radiation directly on a detector Patent  
 [NASA-CASE-XHQ-04106] c 14 N70-40240  
 Apparatus and method for determining the position of a radiant energy source  
 [NASA-CASE-GSC-12147-1] c 32 N81-27341

**POINTING CONTROL SYSTEMS**

- Rotable accurate reflector system for telescopes Patent  
 [NASA-CASE-NPO-10468] c 23 N71-33229  
 All sky pointing attitude control system  
 [NASA-CASE-ARC-10716-1] c 35 N77-20399  
 Magnetic suspension and pointing system  
 [NASA-CASE-LAR-11889-2] c 37 N78-27424  
 Magnetic suspension and pointing system --- on a carrier vehicle  
 [NASA-CASE-LAR-11889-1] c 35 N79-26372  
 Solar tracking system  
 [NASA-CASE-MFS-23999-1] c 44 N81-24520

**POINTS (MATHEMATICS)**

- Method of and apparatus for generating an interstitial point in a data stream having an even number of data points  
 [NASA-CASE-MFS-25319-1] c 60 N85-33701

**POLAR ORBITS**

- Cartwheel satellite synchronization system Patent  
 [NASA-CASE-XGS-05579] c 31 N71-15676

**POLARIMETERS**

- Polarimeter for transient measurement Patent  
 [NASA-CASE-XNP-08883] c 23 N71-16101  
 Interferometer-polarimeter  
 [NASA-CASE-NPO-11239] c 14 N73-12446

**POLARIMETRY**

- Data volume reduction for imaging radar polarimetry  
 [NASA-CASE-NPO-17184-1-CU] c 32 N88-26541

**POLARITY**

- Positive dc to negative dc converter Patent  
 [NASA-CASE-XMF-08217] c 03 N71-23239  
 Peak polarity selector Patent  
 [NASA-CASE-FRC-10010] c 10 N71-24862  
 Precision rectifier with FET switching means Patent  
 [NASA-CASE-ARC-10101-1] c 09 N71-33109

**POLARIZATION (WAVES)**

- System for interference signal nulling by polarization adjustment  
 [NASA-CASE-NPO-13140-1] c 32 N75-24982  
 Multifrequency broadband polarized horn antenna  
 [NASA-CASE-NPO-14588-1] c 32 N81-25278  
 Faraday rotation measurement method and apparatus  
 [NASA-CASE-NPO-14839-1] c 35 N82-15381

**POLARIZED ELECTROMAGNETIC RADIATION**

- Antenna beam-shaping apparatus Patent  
 [NASA-CASE-NXP-00611] c 09 N70-35219  
 Parabolic reflector horn feed with spillover correction Patent  
 [NASA-CASE-XNP-00540] c 09 N70-35382  
 Antenna feed system for receiving circular polarization and transmitting linear polarization  
 [NASA-CASE-NPO-14362-1] c 32 N80-16261  
 Coaxial phased array antenna  
 [NASA-CASE-MS-C-16800-1] c 32 N81-14187  
 Reciprocating linear motor  
 [NASA-CASE-GSC-12773-2] c 33 N87-23904

**POLARIZED LIGHT**

- Polarization compensator for optical communications  
 [NASA-CASE-GSC-11782-1] c 74 N76-30053  
 Visible and infrared polarization ratio spectrophotometer  
 [NASA-CASE-LAR-12285-1] c 35 N80-28687

**POLARIZED RADIATION**

- Microwave limb sounder --- measuring trace gases in the upper atmosphere  
 [NASA-CASE-NPO-14544-1] c 46 N82-12685

**POLARIZERS**

- Partial polarizer filter  
 [NASA-CASE-GSC-12225-1] c 74 N79-14891  
 Wind dynamic range video camera  
 [NASA-CASE-MFS-25750-1] c 32 N86-20647

**POLES**

- Radial and torsionally controlled magnetic bearing  
 [NASA-CASE-GSC-12957-1] c 37 N87-17038

**POLISHING**

- Conforming polisher for aspheric surface of revolution Patent  
 [NASA-CASE-XGS-02884] c 15 N71-22705  
 Method of forming a sharp edge on an optical device  
 [NASA-CASE-GSC-12348-1] c 74 N80-24149

**POLLUTION CONTROL**

- System for minimizing internal combustion engine pollution emission  
 [NASA-CASE-NPO-13402-1] c 37 N76-18457  
 Combustion engine --- for air pollution control  
 [NASA-CASE-NPO-13671-1] c 37 N77-31497  
 Supercritical fuel injection system  
 [NASA-CASE-LEW-12990-1] c 07 N81-29129  
 Apparatus and method for destructive removal of particles contained in flowing fluid  
 [NASA-CASE-NPO-15426-1] c 35 N84-17555

**POLLUTION MONITORING**

- Fluorescence detector for monitoring atmospheric pollutants  
 [NASA-CASE-NPO-13231-1] c 45 N75-27585  
 Stack plume visualization system  
 [NASA-CASE-LAR-11675-1] c 45 N76-17656  
 Indicator providing continuous indication of the presence of a specific pollutant in air  
 [NASA-CASE-NPO-13474-1] c 45 N76-21742  
 Method for detecting pollutants --- through chemical reactions and heat treatment  
 [NASA-CASE-LAR-11405-1] c 45 N76-31714  
 Automated syringe sampler --- remote sampling of air and water  
 [NASA-CASE-LAR-12308-1] c 35 N81-29407

**POLYIMIDE RESINS**

- Vitro-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
 [NASA-CASE-MS-C-16074-1] c 27 N80-26446  
 Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
 [NASA-CASE-LAR-12723-2] c 27 N84-22746  
 Heat resistant protective hand covering  
 [NASA-CASE-MS-C-20261-1] c 54 N84-28484  
 Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
 [NASA-CASE-LAR-12723-1] c 27 N85-20123  
 Process for preparing highly optically transparent/colorless aromatic polyimide film  
 [NASA-CASE-LAR-13351-1] c 27 N86-31727  
 Fire and heat resistant laminating resins based on maleimide and citraconimide substituted 1-2,4- and -2,6-diaminobenzenes  
 [NASA-CASE-ARC-11533-1] c 27 N87-23751

**POLYBENZIMIDAZOLE**

- Polymeric foams from cross-linkable poly-n-arylenebenzimidazoles  
 [NASA-CASE-ARC-11008-1] c 27 N78-31232

**POLYBUTADIENE**

- New polymers of perfluorobutadiene and method of manufacture Patent application  
 [NASA-CASE-NPO-10863] c 06 N70-11251  
 Method of polymerizing perfluorobutadiene Patent application  
 [NASA-CASE-NPO-10447] c 06 N70-11252  
 Inhibited solid propellant composition containing beryllium hydride  
 [NASA-CASE-NPO-10866-1] c 28 N79-14228

**POLYCARBONATES**

- Helmet assembly and latch means therefor Patent  
 [NASA-CASE-XMS-04935] c 05 N71-11190  
 Poly(carbonate-mide) polymer  
 [NASA-CASE-LAR-13292-1] c 27 N86-24841

**POLYCRYSTALS**

- Fabrication of polycrystalline solar cells on low-cost substrates  
 [NASA-CASE-GSC-12022-1] c 44 N76-28635  
 Process for utilizing low-cost graphite substrates for polycrystalline solar cells  
 [NASA-CASE-GSC-12022-2] c 44 N78-24609  
 Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
 [NASA-CASE-XLE-02545-1] c 76 N79-21910  
 Quasi-containerless glass formation method and apparatus  
 [NASA-CASE-MFS-28090-1] c 27 N87-21111

**POLYESTERS**

- Novel polycarboxylic prepolymeric materials and polymers thereof Patent  
 [NASA-CASE-NPO-10596] c 06 N71-25929  
 Apparatus for forming drive belts  
 [NASA-CASE-NPO-13205-1] c 31 N74-32917  
 Stabilized unsaturated polyesters  
 [NASA-CASE-NPO-16103-1] c 27 N85-29043  
 Sulfone-ester polymers containing pendent ethynyl groups  
 [NASA-CASE-LAR-13316-1] c 27 N86-27450

- Ethynyl terminated ester oligomers and polymers therefrom  
 [NASA-CASE-LAR-13118-2] c 27 N87-16907  
 Tapered, tubular polyester fabric  
 [NASA-CASE-MS-C-21082-1] c 27 N87-29672  
 Polyether-polyester graft copolymer  
 [NASA-CASE-LAR-13447-1] c 27 N88-18725

**POLYETHER RESINS**

- Polyurethanes from fluoroalkyl propylene glycol polyethers  
 [NASA-CASE-MFS-10506] c 06 N73-30100  
 Fluorohydroxy ethers  
 [NASA-CASE-MFS-10507] c 06 N73-30101  
 Highly fluorinated polymers  
 [NASA-CASE-MFS-11492] c 06 N73-30102  
 Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
 [NASA-CASE-XGS-05584-1] c 25 N82-29370  
 Phenoxy resins containing pendent ethynyl groups and cured resins obtained therefrom  
 [NASA-CASE-LAR-13262-1] c 23 N85-28973  
 Polyether-polyester graft copolymer  
 [NASA-CASE-LAR-13447-1] c 27 N88-18725

**POLYIMIDE RESINS**

- Polyimide adhesives  
 [NASA-CASE-LAR-11397-1] c 27 N75-29263  
 Polyimide adhesives  
 [NASA-CASE-LAR-12181-1] c 27 N78-17205  
 Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
 [NASA-CASE-ARC-11040-2] c 24 N78-27184  
 Mixed diamines for lower melting addition polyimide preparation and utilization  
 [NASA-CASE-LAR-12054-1] c 27 N79-33316  
 Composition and method for making polyimide resin-reinforced fabric  
 [NASA-CASE-LEW-12933-1] c 27 N81-19296  
 Tackifier for addition polyimides containing monoethylphthalate  
 [NASA-CASE-LAR-12642-1] c 27 N81-29229  
 Low temperature cross linking polyimides  
 [NASA-CASE-LEW-12876-2] c 27 N83-29392  
 Elastomer-modified phosphorus-containing imide resins  
 [NASA-CASE-ARC-11400-1] c 27 N84-14322  
 Chemical approach for controlling nadimide cure temperature and rate  
 [NASA-CASE-LEW-13770-1] c 27 N84-27885  
 Phosphorus-containing imide resins  
 [NASA-CASE-ARC-11368-2] c 27 N85-21347  
 Chemical approach for controlling nadimide cure temperature and rate with maleimide  
 [NASA-CASE-LEW-13770-3] c 27 N85-21350  
 Chemical approach for controlling nadimide cure temperature and rate with maleimide  
 [NASA-CASE-LEW-13770-4] c 27 N85-21351  
 Chemical approach for controlling nadimide cure temperature and rate  
 [NASA-CASE-LEW-13770-5] c 27 N85-21352  
 Chemical control of nadimide cure temperature and rate  
 [NASA-CASE-LEW-13770-2] c 25 N85-28982  
 Chemical approach for controlling nadimide cure temperature and rate  
 [NASA-CASE-LEW-13770-6] c 25 N85-30039  
 High temperature resistant polyimide from tetra ester, diamine, diester and N-arylnadimide  
 [NASA-CASE-LEW-13864-1] c 27 N86-19457  
 Process for curing bismaleimide resins  
 [NASA-CASE-ARC-11429-4CU] c 27 N87-15304

**POLYIMIDES**

- Preparation of polyimides from mixtures of monomeric diamines and esters of polycarboxylic acids  
 [NASA-CASE-LEW-11325-1] c 06 N73-27980  
 Polyimide foam for the thermal insulation and fire protection  
 [NASA-CASE-ARC-10464-1] c 27 N74-12812  
 Reinforced structural plastics  
 [NASA-CASE-LEW-10199-1] c 27 N74-23125  
 Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
 [NASA-CASE-MFS-22355-1] c 23 N76-15268  
 Process for preparing thermoplastic aromatic polyimides  
 [NASA-CASE-LAR-11828-1] c 27 N78-32261  
 Ambient cure polyimide foams --- thermal resistant foams  
 [NASA-CASE-ARC-11170-1] c 27 N79-11215  
 Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
 [NASA-CASE-ARC-11107-1] c 25 N80-16116  
 Crystalline polyimides --- reinforcing fibers for high temperature composites and adhesives as well as flame retardation  
 [NASA-CASE-LAR-12099-1] c 27 N80-16158

Method for preparing addition type polyimide prepreps  
[NASA-CASE-LAR-12054-2] c 27 N81-14078

Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206

Electrically conductive palladium containing polyimide films  
[NASA-CASE-LAR-12705-1] c 25 N82-26396

Elastomer toughened polyimide adhesives  
[NASA-CASE-LAR-12775-1] c 27 N83-28240

Solvent resistant thermoplastic aromatic poly(imidesulfone) and process for preparing same  
[NASA-CASE-LAR-12858-1] c 27 N83-34041

Process for preparing solvent resistant, thermoplastic aromatic poly(imidesulfone)  
[NASA-CASE-LAR-12858-2] c 27 N85-20124

Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349

Fire-resistant phosphorus containing polyimides and copolyimides  
[NASA-CASE-ARC-11522-2] c 27 N85-34280

Maleimido substituted aromatic cyclotriposphazenes  
[NASA-CASE-ARC-11428-1] c 23 N86-19376

Process of end-capping a polyimide system  
[NASA-CASE-LAR-13135-1] c 27 N86-19456

High temperature polyimide film laminates and process for preparation thereof  
[NASA-CASE-LAR-13384-1] c 27 N86-20561

Poly(carbonate-mide) polymer  
[NASA-CASE-LAR-13292-1] c 27 N86-24841

Laminate comprising fibers embedded in cured amine terminated bis-imide  
[NASA-CASE-ARC-11421-3] c 24 N86-25416

Process for preparing essentially colorless polyimide film containing phenoxy-linked diamines  
[NASA-CASE-LAR-13353-1] c 27 N86-29039

New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433

Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof  
[NASA-CASE-LAR-13318-1] c 27 N87-14516

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736

Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575

Process for developing crystallinity in linear aromatic polyimides  
[NASA-CASE-LAR-13732-1] c 27 N87-25474

Semi-2-interpenetrating networks of high temperature systems  
[NASA-CASE-LAR-13450-1] c 27 N87-28657

Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404

**POLYISOBUTYLENE**  
Method of forming difunctional polyisobutylene  
[NASA-CASE-NPO-10893] c 27 N73-22710

**POLYISOPRENES**  
Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045

**POLYMER CHEMISTRY**  
Trifunctional alcohol  
[NASA-CASE-NPO-10714] c 06 N69-31244

Synthesis of siloxane-containing epoxy polymers  
Patent  
[NASA-CASE-MFS-13994-1] c 06 N71-11240

Apparatus for testing polymeric materials  
Patent  
[NASA-CASE-XNP-09699] c 06 N71-24607

Polyimide adhesives  
[NASA-CASE-LAR-11397-1] c 27 N75-29263

Trimerization of aromatic nitriles  
[NASA-CASE-LEW-12053-1] c 27 N78-15276

Polyimide adhesives  
[NASA-CASE-LAR-12181-1] c 27 N78-17205

Infusible silazane polymer and process for producing same --- protective coatings  
[NASA-CASE-XMF-02526-1] c 27 N79-21190

Fluorine-containing polyformals  
[NASA-CASE-XMF-06900-1] c 27 N79-21191

In situ self cross-linking of polyvinyl alcohol battery separators  
[NASA-CASE-LEW-12972-1] c 44 N79-25481

Bifunctional monomers having terminal oxime and cyano or amidine groups  
[NASA-CASE-ARC-11253-3] c 27 N81-24256

In-situ cross linking of polyvinyl alcohol --- application to battery separator films  
[NASA-CASE-LEW-13135-2] c 27 N81-24257

Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258

Process for the preparation of polycarbonylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271

Phosphorus-containing bisimide resins  
[NASA-CASE-ARC-11321-1] c 27 N81-27272

Preparation of crosslinked 1,2,4-oxadiazole polymer  
[NASA-CASE-ARC-11253-2] c 27 N82-24338

Preparation of perfluorinated 1,2,4-oxadiazoles  
[NASA-CASE-ARC-11267-2] c 23 N82-28353

Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-6] c 25 N85-30039

Amine terminated bisaspartimide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726

New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433

Aminophenoxycyclotriposphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469

The 1-((diorganoxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605

Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404

Novel ladder polymers for use as high temperature stable resins or coatings  
[NASA-CASE-LEW-14203-1] c 27 N88-29984

Polyphenylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814

**POLYMER MATRIX COMPOSITES**  
Intumescent-ablator coatings using endothermic fillers  
[NASA-CASE-ARC-11043-1] c 24 N78-27180

Copolymer of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560

**POLYMERIC FILMS**  
Processing for producing a sterilized instrument  
Patent  
[NASA-CASE-XNP-09763] c 14 N71-20461

Hydraulic casting of liquid polymers  
Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975

Thermoelectric radiometer utilizing polymer film  
[NASA-CASE-ARC-10138-1] c 14 N72-24477

Apparatus and method for skin packaging articles  
[NASA-CASE-MFS-20855] c 15 N73-27405

Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c 44 N76-14600

Preparation of dielectric coating of variable dielectric constant by plasma polymerization  
[NASA-CASE-ARC-10892-2] c 27 N79-14214

Reverse osmosis membrane of high urea rejection properties --- water purification  
[NASA-CASE-ARC-10980-1] c 27 N80-23452

Surface finishing  
[NASA-CASE-MSC-12631-3] c 27 N81-14077

Cross-linked polyvinyl alcohol and method of making same  
[NASA-CASE-LEW-13101-2] c 23 N81-29160

Separator for alkaline electric cells and method of making  
[NASA-CASE-GSC-10017-1] c 44 N82-24643

Electrically conductive palladium containing polyimide films  
[NASA-CASE-LAR-12705-1] c 25 N82-26396

Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440

Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361

Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455

High temperature polyimide film laminates and process for preparation thereof  
[NASA-CASE-LAR-13384-1] c 27 N86-20561

Process for preparing essentially colorless polyimide film containing phenoxy-linked diamines  
[NASA-CASE-LAR-13353-1] c 27 N86-29039

Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727

Polynamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-1-CU] c 27 N87-22847

Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953

Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133

Hazards protection for space suits and spacecraft  
[NASA-CASE-MSC-21366-1] c 54 N89-12206

Polynamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-2-CU] c 23 N89-12667

Low dielectric fluorinated poly(phenylene ether ketone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496

**POLYMERIZATION**  
New polymers of perfluorobutadiene and method of manufacture  
Patent application  
[NASA-CASE-NPO-10863] c 06 N70-11251

Method of polymerizing perfluorobutadiene  
Patent application  
[NASA-CASE-NPO-10447] c 06 N70-11252

Process for interfacial polymerization of pyromellitic dianhydride and 1,2,4,5-tetraamino-benzene  
Patent  
[NASA-CASE-XLA-03104] c 06 N71-11235

Imidazopyrrolone/imide copolymers  
Patent  
[NASA-CASE-XLA-08802] c 06 N71-11238

Direct synthesis of polymeric Schiff bases from two amines and two aldehydes  
Patent  
[NASA-CASE-XMF-08655] c 06 N71-11239

Azine polymers and process for preparing the same  
Patent  
[NASA-CASE-XMF-08656] c 06 N71-11242

Synthesis of polymeric Schiff bases by reaction of acetals and amine compounds  
Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243

Elastomeric silazane polymers and process for preparing the same  
Patent  
[NASA-CASE-XMF-04133] c 06 N71-20717

Reaction of fluorine with polyperfluoropolyenes  
[NASA-CASE-NPO-10862] c 06 N72-22107

Silphenylenesiloxane polymers having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c 06 N72-25151

Polymers of perfluorobutadiene and method of manufacture  
[NASA-CASE-NPO-10863-2] c 06 N72-25152

Fluorohydroxy ethers  
[NASA-CASE-MFS-10507] c 06 N73-30101

Highly fluorinated polymers  
[NASA-CASE-MFS-11492] c 06 N73-30102

Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge  
[NASA-CASE-ARC-10643-1] c 25 N75-12087

Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c 27 N76-16228

Nuclear alkylated pyridine aldehyde polymers and conductive compositions thereof  
[NASA-CASE-NPO-10557] c 27 N78-17214

Polymeric foams from cross-linkable poly-n-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c 27 N78-31232

Ambient cure polyimide foams --- thermal resistant foams  
[NASA-CASE-ARC-11170-1] c 27 N79-11215

Preparation of heterocyclic block copolymer omega-diamidoximes  
[NASA-CASE-ARC-11060-1] c 27 N79-22300

Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307

Mixed diamines for lower melting addition polyimide preparation and utilization  
[NASA-CASE-LAR-12054-1] c 27 N79-33316

Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MSC-14903-2] c 27 N80-10358

Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-3] c 27 N80-24438

Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016

Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104

Process for the preparation of fluorine containing crosslinked elastomeric polytriazine and product so produced  
[NASA-CASE-ARC-11248-1] c 27 N81-17259

The 1,2,4-oxadiazole elastomers --- heat resistant polymers  
[NASA-CASE-ARC-11253-1] c 27 N81-17262

Process for preparation of large-particle-size monodisperse latexes  
[NASA-CASE-MFS-25000-1] c 25 N81-19242

Ion-exchange hollow fibers  
[NASA-CASE-NPO-13309-1] c 25 N81-19244

Carboranyl cyclotriposphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389



- Electrically conductive palladium containing polyimide films  
[NASA-CASE-LAR-12705-1] c 25 N82-26396
- Solvent resistant thermoplastic aromatic poly(imidesulfone) and process for preparing same  
[NASA-CASE-LAR-12858-1] c 27 N83-34041
- Elastomer-modified phosphorus-containing imide resins  
[NASA-CASE-ARC-11400-1] c 27 N84-14322
- Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709
- Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-2] c 27 N84-22746
- Polyphenylene ethers with imide linking groups  
[NASA-CASE-LAR-12980-1] c 27 N84-22749
- Carboranymethylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750
- Metal phthalocyanine polymers  
[NASA-CASE-ARC-11405-1] c 27 N84-27884
- Phthalocyanine polymers  
[NASA-CASE-ARC-11413-1] c 27 N85-21348
- Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043
- Maleimido substituted aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-1] c 23 N86-19376
- Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-2] c 27 N86-21675
- Process for crosslinking methylene-containing aromatic polymers with ionizing radiation  
[NASA-CASE-LAR-13448-1] c 27 N86-24840
- Laminate comprising fibers embedded in cured amine terminated bis-imide  
[NASA-CASE-ARC-11421-3] c 24 N86-25416
- Sulfone-ester polymers containing pendent ethynyl groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450
- Polymer of phosphonylmethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525
- Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526
- New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433
- The 5-(4-Ethynylphenoxy) isophthalic chloride  
[NASA-CASE-LAR-13316-2] c 27 N87-14515
- Ethynyl terminated ester oligomers and polymers therefrom  
[NASA-CASE-LAR-13118-2] c 27 N87-16907
- Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112
- Polynamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-1-CU] c 27 N87-22847
- Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-1] c 27 N87-23751
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564
- Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575
- Process for developing crystallinity in linear aromatic polyimides  
[NASA-CASE-LAR-13732-1] c 27 N87-25474
- Semi-2-interpenetrating networks of high temperature systems  
[NASA-CASE-LAR-13450-1] c 27 N87-28657
- Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692
- Novel ladder polymers for use as high temperature stable resins or coatings  
[NASA-CASE-LEW-14203-1] c 27 N88-29984
- Polynamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-2-CU] c 23 N89-12667
- Low dielectric fluorinated poly(phenylene ether keytone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496
- Graphite fluoride fiber polymer composite material  
[NASA-CASE-LEW-14472-1] c 24 N89-14259
- POLYMERS**
- Preparation of ordered poly /arylenesiloxane/ polymers  
[NASA-CASE-XMF-10753] c 06 N71-11237
- Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
[NASA-CASE-XMF-03074] c 06 N71-24740
- Resilience testing device Patent  
[NASA-CASE-XLA-08254] c 14 N71-26161
- Epoxy-aziridine polymer product Patent  
[NASA-CASE-NPO-10701] c 06 N71-28620
- Solid state thermal control polymer coating Patent  
[NASA-CASE-XLA-01745] c 33 N71-28903
- Polymeric vehicles as carriers for sulfonic acid salt of nitrosubstituted aromatic amines  
[NASA-CASE-ARC-10325] c 06 N72-25147
- Hydrazinium nitroformate propellant with saturated polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c 27 N73-16764
- Method of forming difunctional polyisobutylene  
[NASA-CASE-NPO-10893] c 27 N73-22710
- Novel polymers and method of preparing same  
[NASA-CASE-NPO-10998-1] c 06 N73-32029
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c 27 N74-21156
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315
- Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-2] c 27 N77-31308
- Method for separating biological cells --- suspended in aqueous polymer systems  
[NASA-CASE-MFS-23883-1] c 51 N80-16715
- Chelate-modified polymers for atmospheric gas chromatography  
[NASA-CASE-ARC-11154-1] c 25 N80-23383
- Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437
- Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745
- Carboranymethylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750
- Process for improving moisture resistance of epoxy resins by addition of chromium ions  
[NASA-CASE-LAR-13226-1] c 27 N85-34282
- Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526
- Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736
- POLYMETHYL METHACRYLATE**
- Durable antistatic coating for polymethylmethacrylate  
[NASA-CASE-NPO-13867-1] c 27 N78-14164
- Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854
- POLYPHENYL ETHER**
- Polyphenylene ethers with imide linking groups  
[NASA-CASE-LAR-12980-1] c 27 N84-22749
- Low dielectric fluorinated poly(phenylene ether keytone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496
- POLYPHENYLS**
- Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040
- Polyphenylene ethers with imide linking groups  
[NASA-CASE-LAR-12980-1] c 27 N84-22749
- Polyphenylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814
- Low dielectric fluorinated poly(phenylene ether keytone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496
- Polyphenylquinoxalines containing alkylenedioxy groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337
- POLYQUINOXALINES**
- Polyphenylquinoxalines containing alkylenedioxy groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337
- POLYSACCHARIDES**
- Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c 27 N77-30236
- POLYTETRAFLUOROETHYLENE**
- Method and apparatus for bonding a plastics sleeve onto a metallic body Patent  
[NASA-CASE-XLA-01262] c 15 N71-21404
- Diffusely reflecting paints including polytetrafluoroethylene and method of manufacture  
[NASA-CASE-GSC-12883-1] c 27 N85-29044
- POLYURETHANE FOAM**
- Flexible foam erectable space structures Patent  
[NASA-CASE-XLA-00686] c 31 N70-34135
- Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739
- Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c 27 N74-12814
- Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c 27 N76-15310
- Mixing insert for foam dispensing apparatus  
[NASA-CASE-MFS-20607-1] c 37 N76-19436
- Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797
- POLYURETHANE RESINS**
- Hydroxy terminated perfluoro ethers Patent  
[NASA-CASE-NPO-10768] c 06 N71-27254
- Polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c 06 N72-27144
- Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-2] c 06 N72-27151
- Polyurethanes of fluorine containing polycarbonates  
[NASA-CASE-MFS-10512] c 06 N73-30099
- Polyurethanes from fluoroalkyl propyleneglycol polyethers  
[NASA-CASE-MFS-10506] c 06 N73-30100
- Fluorine containing polyurethane  
[NASA-CASE-MFS-10509] c 06 N73-30103
- Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c 06 N73-33076
- Flame retardant spandex type polyurethanes  
[NASA-CASE-MSC-14331-2] c 27 N78-17213
- POLYVINYL ALCOHOL**
- In situ self cross-linking of polyvinyl alcohol battery separators  
[NASA-CASE-LEW-12972-1] c 44 N79-25481
- Method of cross-linking polyvinyl alcohol and other water soluble resins  
[NASA-CASE-LEW-13103-1] c 27 N80-32516
- In-situ cross linking of polyvinyl alcohol --- application to battery separator films  
[NASA-CASE-LEW-13135-2] c 27 N81-24257
- Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615
- Cross-linked polyvinyl alcohol and method of making same  
[NASA-CASE-LEW-13101-2] c 23 N81-29160
- Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188
- PONDS**
- Stable density stratification solar pond  
[NASA-CASE-NPO-15419-2] c 44 N85-30474
- PORCELAIN**
- Refractory porcelain enamel passive control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c 27 N75-27160
- POROSITY**
- Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c 37 N75-26371
- Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-23917
- Method for maintaining precise suction strip porosities  
[NASA-CASE-LAR-13638-1] c 31 N88-29051
- Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841
- POROUS MATERIALS**
- Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468
- Multilayer porous ionizer Patent  
[NASA-CASE-XNP-04338] c 17 N71-23046
- Fluid lubricant system Patent  
[NASA-CASE-XNP-03972] c 15 N71-23048
- Method and device for detecting voids in low density material Patent  
[NASA-CASE-MFS-20044] c 14 N71-28993
- Fabrication of controlled-porosity metals Patent  
[NASA-CASE-XNP-04339] c 17 N71-29137
- Compressible biomedical electrode  
[NASA-CASE-MSC-13648] c 05 N72-27103
- Porus electrode comprising a bonded stack of pieces of corrugated metal foil  
[NASA-CASE-GSC-11368-1] c 09 N73-32108
- Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692
- Fluid valve assembly  
[NASA-CASE-MSC-12731-1] c 37 N78-25426
- Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540

Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18737-1] c 24 N83-13171  
Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18736-1] c 24 N83-13172  
Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176  
Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953

# POROUS PLATES

Method of producing porous tungsten ionizers for ion rocket engines Patent  
[NASA-CASE-XLE-00455] c 28 N70-38197

# PORPHYRINS

Method and apparatus for eliminating luminol interference material  
[NASA-CASE-MSC-16260-1] c 51 N80-16714

# POTABLE EQUIPMENT

Split welding chamber Patent  
[NASA-CASE-LEW-11531] c 15 N71-14932  
Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721  
Weld preparation machine Patent  
[NASA-CASE-XKS-07953] c 15 N71-26134  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148  
Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654  
Boring bar drive mechanism Patent  
[NASA-CASE-XLA-03661] c 15 N71-33518  
One hand backpack harness  
[NASA-CASE-LAR-10102-1] c 05 N72-23085  
Bacterial contamination monitor  
[NASA-CASE-GSC-10879-1] c 14 N72-25413  
Self-recording portable soil penetrometer  
[NASA-CASE-MFS-20774] c 14 N73-19420  
Hand-held photomicroscope  
[NASA-CASE-ARC-10468-1] c 14 N73-33361  
System for enhancing tool-exchange capabilities of a portable wrench  
[NASA-CASE-MFS-22283-1] c 37 N75-33395  
Method of peening and portable peening gun  
[NASA-CASE-MFS-23047-1] c 37 N76-18454  
Portable electrophoresis apparatus using minimum electrolyte  
[NASA-CASE-NPO-13274-1] c 25 N79-10163  
Portable heatable container  
[NASA-CASE-NPO-14237-1] c 44 N80-20808  
Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599  
Portable appliance security apparatus  
[NASA-CASE-GSC-12399-1] c 33 N81-25299  
Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949  
Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928  
Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766  
Portable pallet weighing apparatus  
[NASA-CASE-GSC-12789-1] c 35 N85-20294  
Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631  
Portable 90 degree proof loading device  
[NASA-CASE-MSC-20250-1] c 35 N86-19581  
Acoustic guide for noise-transmission testing of aircraft  
[NASA-CASE-LAR-13111-1-CU] c 71 N87-21652

# PORTABLE LIFE SUPPORT SYSTEMS

Portable breathing system --- a breathing apparatus using a rebreathing system of heat exchangers for carbon dioxide removal  
[NASA-CASE-MSC-16182-1] c 54 N80-10799

# PORTS (OPENINGS)

Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23256  
Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343

# POSITION (LOCATION)

Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958  
Position location and data collection system and method Patent  
[NASA-CASE-GSC-10083-1] c 30 N71-16090  
Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067  
Position location system and method  
[NASA-CASE-GSC-10087-3] c 07 N72-12080

Location identification system  
[NASA-CASE-ERC-10324] c 07 N72-25173  
Cosmic dust or other similar outer space particles impact location detector  
[NASA-CASE-GSC-11291-1] c 25 N72-33696  
Collimator of multiple plates with axially aligned identical random arrays of apertures  
[NASA-CASE-MFS-20546-2] c 14 N73-30389  
Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c 35 N74-32677  
Vehicle locating system utilizing AM broadcasting station carriers  
[NASA-CASE-NPO-13217-1] c 32 N75-26194  
Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331  
Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MFS-16609-3] c 03 N76-32140  
Twin-capacitive shaft angle encoder with analog output signal  
[NASA-CASE-ARC-10897-1] c 33 N77-31404  
X-ray position detector  
[NASA-CASE-NPO-12087-1] c 74 N81-19898  
Adjustable indicating device for load position  
[NASA-CASE-MFS-28008-1] c 35 N85-20300  
Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764  
Controlled sample orientation and rotation in an acoustic levitator  
[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422

**POSITION INDICATORS**  
Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432  
Angular measurement system Patent  
[NASA-CASE-XMF-00447] c 14 N70-33179  
Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent  
[NASA-CASE-XGS-07514] c 23 N71-16099  
Angular position and velocity sensing apparatus Patent  
[NASA-CASE-XGS-05680] c 14 N71-17585  
Extended area semiconductor radiation detectors and a novel readout arrangement Patent  
[NASA-CASE-XGS-03230] c 14 N71-23401  
Doppler compensation by shifting transmitted object frequency within limits  
[NASA-CASE-GSC-10087-4] c 07 N73-20174  
Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c 35 N75-33367  
Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MSC-12593-1] c 17 N76-21250  
Solar cell angular position transducer  
[NASA-CASE-LAR-11999-1] c 44 N80-18552  
Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207  
Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678  
Legislated emergency locating transmitters and emergency position indicating radio beacons  
[NASA-CASE-GSC-12892-1] c 32 N89-14374

**POSITION SENSING**  
Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent  
[NASA-CASE-XGS-07514] c 23 N71-16099

**POSITIONING**  
Instrument support with precise lateral adjustment Patent  
[NASA-CASE-XMF-00480] c 14 N70-39898  
Portable alignment tool Patent  
[NASA-CASE-XMF-01452] c 15 N70-41371  
Optical alignment system Patent  
[NASA-CASE-XNP-02029] c 14 N70-41955  
Null device for hand controller Patent  
[NASA-CASE-XLA-01808] c 15 N71-20740  
Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813  
Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304

**POSITIONING DEVICES (MACHINERY)**  
Swivel support for gas bearings Patent  
[NASA-CASE-XMF-07808] c 15 N71-23812  
Caterpillar micro positioner  
[NASA-CASE-GSC-10780-1] c 14 N72-16283  
Positioning mechanism  
[NASA-CASE-NPO-10679] c 15 N72-21462  
Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267  
Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c 74 N74-21304  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014

Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c 54 N75-27760  
Controlled caging and uncaging mechanism  
[NASA-CASE-GSC-11063-1] c 37 N77-27400  
Workpiece positioning vise  
[NASA-CASE-GSC-12762-1] c 37 N84-28083  
Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629  
Gripping device  
[NASA-CASE-MSC-21365-1] c 37 N89-12865

# POSITIVE FEEDBACK

Complementary regenerative switch Patent  
[NASA-CASE-XGS-02751] c 09 N71-23015

# POTABLE WATER

Recovery of potable water from human wastes in below-G conditions Patent  
[NASA-CASE-XLA-03213] c 05 N71-11207  
Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086  
Specialized halogen generator for purification of water Patent  
[NASA-CASE-XLA-08913] c 14 N71-28933  
Potable water dispenser  
[NASA-CASE-MFS-21115-1] c 54 N74-12779  
Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MFS-21163-1] c 54 N74-17853  
Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c 54 N78-14784  
Degassing and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MSC-18936-1] c 35 N83-29652

# POTASSIUM SILICATES

Fire resistant coating composition Patent  
[NASA-CASE-GSC-10072] c 18 N71-14014

# POTENTIOMETERS

Angle detector  
[NASA-CASE-ARC-11036-1] c 35 N78-32395

# POTENTIOMETERS (INSTRUMENTS)

Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073  
Control device Patent  
[NASA-CASE-XAC-10019] c 15 N71-23809  
Line following servosystem Patent  
[NASA-CASE-XAC-00001] c 15 N71-28952  
Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698  
Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787

# POTTING COMPOUNDS

Method and apparatus for shock protection Patent  
[NASA-CASE-XLA-00482] c 15 N70-36409  
Flexible, repairable, pottable material for electrical connectors Patent  
[NASA-CASE-XGS-05180] c 18 N71-25881  
Thermally conductive polymers  
[NASA-CASE-GSC-11304-1] c 06 N72-21105

# POWDER (PARTICLES)

Method for forming pyrrone molding powders and products of said method  
[NASA-CASE-LAR-10423-1] c 23 N82-29358  
Powder fed sheared dispersal particle generator  
[NASA-CASE-LAR-12785-1] c 37 N84-16561

# POWDER METALLURGY

Process of casting heavy slips Patent  
[NASA-CASE-XLE-00106] c 15 N71-16076  
Fabrication of controlled-porosity metals Patent  
[NASA-CASE-XNP-04339] c 17 N71-29137  
Method of making dry electrodes  
[NASA-CASE-FRC-10029-2] c 05 N72-25121  
Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering  
[NASA-CASE-LEW-10450-1] c 15 N72-25448  
Method of forming superalloys  
[NASA-CASE-LEW-10805-1] c 15 N73-13465  
Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c 26 N74-10521  
Method of forming articles of manufacture from superalloy powders  
[NASA-CASE-LEW-10805-2] c 37 N74-13179  
Cermets composition and method of fabrication --- heat resistant alloys and powders  
[NASA-CASE-NPO-13120-1] c 27 N76-15311  
Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267  
Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

# POWDERED ALUMINUM

Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206

**POWER AMPLIFIERS**

- Ac power amplifier Patent Application  
[NASA-CASE-LAR-10218-1] c 09 N70-34559
- Power supply Patent  
[NASA-CASE-XMS-02159] c 10 N71-22961
- Broadband stable power multiplier Patent  
[NASA-CASE-XNP-10854] c 10 N71-26331
- Signal path series step biased multidevice high efficiency amplifier Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430
- Isolated output system for a class D switching-mode amplifier  
[NASA-CASE-MFS-21616-1] c 33 N75-30429

**POWER CONDITIONING**

- Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254
- Self-reconfiguring solar cell system  
[NASA-CASE-LEW-12586-1] c 44 N80-14472
- Inelastic tunnel diodes  
[NASA-CASE-LEW-13833-1] c 33 N85-21492
- Power supply conditioning circuit  
[NASA-CASE-NPO-17233-1-CU] c 33 N88-29095

**POWER CONVERTERS**

- Gas-to-hydraulic power converter  
[NASA-CASE-MSC-18794-1] c 44 N83-14693

**POWER EFFICIENCY**

- Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317
- Excitation and detection circuitry for a flux responsive magnetic head  
[NASA-CASE-XNP-04183] c 09 N69-24329
- Apparatus for increasing ion engine beam density Patent  
[NASA-CASE-XLE-00519] c 28 N70-41576
- Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20597
- Remote platform power conserving system  
[NASA-CASE-GSC-11182-1] c 15 N75-13007
- Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136
- Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475
- Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194
- Linearized traveling wave amplifier with hard limiter characteristics  
[NASA-CASE-LEW-13981-2] c 33 N86-21742
- Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N88-23937

**POWER FACTOR CONTROLLERS**

- Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190
- Control system for an induction motor with energy recovery  
[NASA-CASE-MFS-25477-1] c 33 N84-14424
- Motor power control circuit for ac induction motors  
[NASA-CASE-MFS-25323-1] c 33 N84-22886
- Solar powered actuator with continuously variable auxiliary power control  
[NASA-CASE-MFS-25637-1] c 44 N85-21769
- Power control for ac motor  
[NASA-CASE-MFS-25861-1] c 33 N85-22877

**POWER GAIN**

- Serrodyne frequency converter re-entrant amplifier system Patent  
[NASA-CASE-XGS-01022] c 07 N71-16088
- CRT blanking and brightness control circuit  
[NASA-CASE-KSC-10647-1] c 10 N72-31273

**POWER LIMITERS**

- Monostable multivibrator  
[NASA-CASE-GSC-10082-1] c 10 N72-20221

**POWER LINES**

- Electrical connector for flat cables Patent  
[NASA-CASE-XMF-00324] c 09 N70-34596
- Motor run-up system --- power lines  
[NASA-CASE-NPO-13374-1] c 33 N75-19524
- Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193
- Shielded conductor cable system  
[NASA-CASE-MSC-12745-1] c 33 N81-27397
- Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319
- Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669
- Coaxial tube tether/transmission line for manned nuclear space power  
[NASA-CASE-LEW-14338-1] c 20 N87-10174

**POWER REACTORS**

- Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N88-23937

**POWER SERIES**

- Computing apparatus Patent  
[NASA-CASE-XGS-04765] c 08 N71-18693
- Phase modulating with odd and even finite power series of a modulating signal  
[NASA-CASE-LAR-11607-1] c 32 N77-14292

**POWER SPECTRA**

- Method and apparatus for high resolution spectral analysis  
[NASA-CASE-NPO-10748] c 08 N72-20177
- Instrument for determining coincidence and elapse time between independent sources of random sequential events  
[NASA-CASE-LAR-12531-1] c 35 N83-29651

**POWER SUPPLIES**

- Tape recorder Patent  
[NASA-CASE-XGS-08259] c 14 N71-23698
- Current dependent filter inductance  
[NASA-CASE-ERC-10139] c 09 N72-17154
- Power supply for carbon dioxide lasers  
[NASA-CASE-GSC-11222-1] c 16 N73-32391
- High voltage distributor  
[NASA-CASE-GSC-11849-1] c 33 N76-16332
- Method and apparatus for precision control of radiometer  
[NASA-CASE-NPO-15398-1] c 35 N84-22931

**POWER SUPPLY CIRCUITS**

- Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c 03 N69-21330
- Power control circuit  
[NASA-CASE-XNP-02713] c 10 N69-39888
- Electronic amplifier with power supply switching Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798
- Heat pipe thermionic diode power system Patent  
[NASA-CASE-XMF-05843] c 03 N71-11055
- Pulsed energy power system Patent  
[NASA-CASE-MSC-13112] c 03 N71-11057
- Data processor having multiple sections activated at different times by selective power coupling to the sections Patent  
[NASA-CASE-XGS-04767] c 08 N71-12494
- Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486
- Regulated power supply Patent  
[NASA-CASE-XMS-01991] c 09 N71-21449
- Power supply Patent  
[NASA-CASE-XMS-02159] c 10 N71-22961
- Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271
- Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543
- Drive circuit for minimizing power consumption in inductive load Patent  
[NASA-CASE-NPO-10716] c 09 N71-24892
- Unsaturating saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893
- Voltage dropout sensor Patent  
[NASA-CASE-KSC-10020] c 10 N71-27338
- Maximum power point tracker Patent  
[NASA-CASE-GSC-10376-1] c 14 N71-27407
- High power microwave power divider Patent  
[NASA-CASE-NPO-11031] c 07 N71-33606
- Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225
- A dc to ac to dc converter having transistor synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c 09 N72-25253
- LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers  
[NASA-CASE-MFS-21698-1] c 33 N74-26732
- Integrable power gyrator --- with Z-matrix design using parallel transistors  
[NASA-CASE-MFS-22342-1] c 33 N75-30428
- The dc-to-dc converters employing staggered-phase power switches with two-loop control  
[NASA-CASE-NPO-13512-1] c 33 N77-10428
- Control for nuclear thermionic power source  
[NASA-CASE-NPO-13114-2] c 73 N78-28913
- Closed Loop solar array-ion thruster system with power control circuitry  
[NASA-CASE-LEW-12780-1] c 20 N79-20179
- Three phase power factor controller  
[NASA-CASE-MFS-25535-1] c 33 N81-12330
- Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395
- Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190
- Arc lamp power supply using a voltage multiplier  
[NASA-CASE-LAR-13202-1] c 33 N88-23942

**POWER TRANSMISSION (LASERS)**

- Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204

**PRECESSION**

- Dynamic precession damper for spin stabilized vehicles Patent  
[NASA-CASE-XLA-01989] c 21 N70-34295

**PRECIPITATION (CHEMISTRY)**

- Production of pure metals  
[NASA-CASE-LEW-10906-1] c 25 N74-30502

**PRECIPITATORS**

- Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

**PRECISION**

- Precision stepping drive Patent  
[NASA-CASE-MFS-14772] c 15 N71-17692
- Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148

**PREDICTIONS**

- Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076

**PREFLIGHT OPERATIONS**

- Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545

**PREFORMS**

- Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656

**PRELAUNCH TESTS**

- Parasitic probe antenna Patent  
[NASA-CASE-XKS-09348] c 09 N71-13521
- Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566

**PREPOLYMERS**

- Novel polycarboxylic prepolymeric materials and polymers thereof Patent  
[NASA-CASE-NPO-10596] c 06 N71-25929
- Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514
- Prepolymer dianhydrides  
[NASA-CASE-NPO-13899-1] c 27 N80-32515
- Structural wood panels with improved fire resistance  
[NASA-CASE-ARC-11174-1] c 24 N81-13999
- Method for forming pyrrone molding powders and products of said method  
[NASA-CASE-LAR-10423-1] c 23 N82-29358
- Elastomer toughened polyimide adhesives  
[NASA-CASE-LAR-12775-1] c 27 N83-28240
- Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040

**PREPREGS**

- Tackifier for addition polyimides containing monoethylphthalate  
[NASA-CASE-LAR-12642-1] c 27 N81-29229

**PRESSURE**

- Strain gage mounting assembly  
[NASA-CASE-NPO-13170-1] c 35 N76-14430

**PRESSURE CHAMBERS**

- Electric arc driven wind tunnel Patent  
[NASA-CASE-XMF-00411] c 11 N70-36913
- Whole body measurement systems --- for weightlessness simulation  
[NASA-CASE-MSC-13972-1] c 52 N74-10975
- Accumulator  
[NASA-CASE-MFS-19287-1] c 34 N77-30399
- Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343
- Weightlessness simulation system and process  
[NASA-CASE-ARC-11646-1] c 14 N87-25344

**PRESSURE DISTRIBUTION**

- Instrument for use in performing a controlled Valsalva maneuver Patent  
[NASA-CASE-XMS-01615] c 05 N70-41329
- Prevention of pressure build-up in electrochemical cells Patent  
[NASA-CASE-XGS-01419] c 03 N70-41864
- Accumulator  
[NASA-CASE-MFS-19287-1] c 34 N77-30399
- Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363
- Continuous self-locking spiral wound seal --- for maintaining pressure between chambers in cryogenic wind tunnels  
[NASA-CASE-LAR-12315-1] c 37 N82-24490
- Ultrasonic transducer with Gaussian radial pressure distribution  
[NASA-CASE-LAR-12967-1] c 35 N84-22932

**PRESSURE DRAG**

- Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765

## PRESSURE DROP

Leak detector  
[NASA-CASE-MFS-21761-1] c 35 N75-15931

## PRESSURE EFFECTS

System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c 33 N74-17927  
Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c 31 N75-13111  
Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-19686  
Fluid pressure balanced seal  
[NASA-CASE-XGS-01286-1] c 37 N79-33469  
Real time pressure signal system for a rotary engine  
[NASA-CASE-LEW-13622-1] c 07 N84-22559  
Optical pressure sealing coupling (light joint)  
[NASA-CASE-MFS-29348-1] c 74 N88-25303

## PRESSURE GAGES

Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816  
Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317  
Apparatus for testing a pressure responsive instrument Patent  
[NASA-CASE-XMF-04134] c 14 N71-23755  
Device for measuring pressure Patent  
[NASA-CASE-XAC-04458] c 14 N71-24232  
Ultrahigh vacuum gauge having two collector electrodes  
[NASA-CASE-LAR-02743] c 14 N73-32324  
Gas ion laser construction for electrically isolating the pressure gauge thereof  
[NASA-CASE-MFS-22597] c 36 N78-17366

## PRESSURE GRADIENTS

Positive displacement flowmeter Patent  
[NASA-CASE-XMF-02822] c 14 N70-41994  
Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680

## PRESSURE HEADS

Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
[NASA-CASE-NPO-15227-1] c 37 N81-33482

## PRESSURE MEASUREMENT

Inertia diaphragm pressure transducer Patent  
[NASA-CASE-XAC-02981] c 14 N71-21072  
Linear differential pressure sensor Patent  
[NASA-CASE-XMF-01974] c 14 N71-22752  
Device for measuring pressure Patent  
[NASA-CASE-XAC-04458] c 14 N71-24232  
Device for measuring light scattering wherein the measuring beam is successively reflected between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c 14 N71-28994  
Sensing probe  
[NASA-CASE-LEW-10281-1] c 14 N72-17327  
Gauge calibration by diffusion  
[NASA-CASE-XGS-07752] c 14 N73-30390  
Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394  
Wind tunnel model and method  
[NASA-CASE-LAR-10812-1] c 09 N74-17955  
Indicated mean-effective pressure instrument  
[NASA-CASE-LEW-12661-1] c 35 N79-14345  
High-temperature microphone system --- for measuring pressure fluctuations in gases at high temperature  
[NASA-CASE-LAR-12375-1] c 32 N79-24203  
Static pressure orifice system testing method and apparatus  
[NASA-CASE-LAR-12269-1] c 35 N80-18358  
Detection of the transitional layer between laminar and turbulent flow areas on a wing surface --- using an accelerometer to measure pressure levels during wind tunnel tests  
[NASA-CASE-LAR-12261-1] c 02 N80-20224  
Non-invasive method and apparatus for measuring pressure within a pliable vessel  
[NASA-CASE-ARC-11264-2] c 52 N83-29991  
Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934  
Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639  
Device for quick changeover between wind tunnel force and pressure testing  
[NASA-CASE-LAR-13512-1] c 35 N87-28884  
Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841  
Pressure measuring probe  
[NASA-CASE-LAR-13853-1] c 35 N89-14423

## PRESSURE REDUCTION

Relief valve  
[NASA-CASE-XMS-05894-1] c 15 N69-21924  
Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051  
Depressurization of arc lamps  
[NASA-CASE-NPO-10790-1] c 33 N77-21316  
Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229  
Pressure letdown method and device for coal conversion systems  
[NASA-CASE-NPO-15100-1] c 44 N84-14583  
Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095  
Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800

## PRESSURE REGULATORS

Pressure regulating system Patent  
[NASA-CASE-XNP-00450] c 15 N70-38603  
Resuscitation apparatus Patent  
[NASA-CASE-XMS-01115] c 05 N70-39922  
High pressure regulator valve Patent  
[NASA-CASE-XNP-00710] c 15 N71-10778  
Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194  
Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203  
Anti-backlash circuit for hydraulic drive system Patent  
[NASA-CASE-XNP-01020] c 03 N71-12260  
High impact pressure regulator Patent  
[NASA-CASE-NPO-10175] c 14 N71-18625  
Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332] c 05 N72-20097  
Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c 05 N73-25125  
Combined pressure regulator and shutoff valve  
[NASA-CASE-NPO-13201-1] c 37 N75-15050  
Pressure modulating valve  
[NASA-CASE-MSC-14905-1] c 37 N77-28487  
Flow compensating pressure regulator  
[NASA-CASE-LEW-12718-1] c 34 N78-25351  
Flow diverter valve and flow diversion method  
[NASA-CASE-HQN-00573-1] c 37 N79-33468  
Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12955-1] c 52 N80-14684  
Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12723-1] c 52 N80-18690  
Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433  
Prosthetic urinary sphincter  
[NASA-CASE-MFS-23717-1] c 52 N81-25660  
Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785  
Vibration isolation and pressure compensation apparatus for sensitive instrumentation  
[NASA-CASE-LAR-12728-1] c 35 N83-32026  
Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873

## PRESSURE SENSORS

Pressure variable capacitor  
[NASA-CASE-XNP-09752] c 14 N69-21541  
Aerodynamic measuring device Patent  
[NASA-CASE-XLA-00481] c 14 N70-36824  
Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c 15 N70-37925  
Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c 14 N70-41681  
Inertia diaphragm pressure transducer Patent  
[NASA-CASE-XAC-02981] c 14 N71-21072  
Linear differential pressure sensor Patent  
[NASA-CASE-XMF-01974] c 14 N71-22752  
Pressure transducer calibrator Patent  
[NASA-CASE-XNP-01660] c 14 N71-23036  
Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387  
Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334  
Method of making pressurized panel Patent  
[NASA-CASE-XLA-08916] c 15 N71-29018  
Sensing probe  
[NASA-CASE-LEW-10281-1] c 14 N72-17327  
Pressure transducer  
[NASA-CASE-NPO-10832] c 14 N72-21405  
Pressure operated electrical switch responsive to a pressure decrease after a pressure increase  
[NASA-CASE-LAR-10137-1] c 09 N72-22204  
Wide range dynamic pressure sensor  
[NASA-CASE-ARC-10263-1] c 14 N72-22438

Differential pressure control  
[NASA-CASE-MFS-14216] c 14 N73-13418  
Pressurized panel  
[NASA-CASE-XLA-08916-2] c 14 N73-28487  
System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c 35 N74-13132  
Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c 35 N74-32878  
Circuit for detecting initial systolic and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c 54 N75-13531  
Leak detector  
[NASA-CASE-MFS-21761-1] c 35 N75-15931  
Measurement of gas production of microorganisms --- using pressure sensors  
[NASA-CASE-LAR-11326-1] c 35 N75-33368  
Static pressure probe  
[NASA-CASE-LAR-11552-1] c 35 N76-14429  
Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c 33 N76-21390  
Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c 52 N76-29896  
Miniature biaxial strain transducer  
[NASA-CASE-LAR-11648-1] c 35 N77-14407  
Pressure transducer --- using a monomeric charge transfer complex sensor  
[NASA-CASE-NPO-11150] c 35 N78-17359  
Electronically scanned pressure sensor module with in situ calibration capability  
[NASA-CASE-LAR-12230-1] c 35 N79-14347  
System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300  
Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483  
Self-correcting electronically scanned pressure sensor  
[NASA-CASE-LAR-12686-1] c 35 N84-14491  
Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934  
Heat pipe cooled probe  
[NASA-CASE-LAR-12588-1] c 34 N85-21568  
Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558  
Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841  
Circumferential pressure probe  
[NASA-CASE-LAR-13775-1] c 35 N89-14408  
Pressure measuring probe  
[NASA-CASE-LAR-13853-1] c 35 N89-14423

## PRESSURE SUITS

Pressure suit tie-down mechanism Patent  
[NASA-CASE-XMS-00784] c 05 N71-12335  
Pressure garment joint Patent  
[NASA-CASE-XMS-09636] c 05 N71-12344  
Omni-directional joint Patent  
[NASA-CASE-XMS-09635] c 05 N71-24623  
Foreshortened convolute section for a pressurized suit Patent  
[NASA-CASE-XMS-09637-1] c 05 N71-24730  
Method of forming a root cord restrained convolute section  
[NASA-CASE-MSC-12398] c 05 N72-20098  
Restraint torso for a pressurized suit  
[NASA-CASE-MSC-12397-1] c 05 N72-25119  
Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546  
Walking boot assembly  
[NASA-CASE-ARC-11101-1] c 54 N78-17675  
Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987  
Method and apparatus for simulating gravitational forces on a living organism  
[NASA-CASE-MSC-20202-1] c 54 N84-16803

## PRESSURE SWITCHES

Reinforcing means for diaphragms Patent  
[NASA-CASE-XNP-01962] c 32 N70-41370  
Calibrating pressure switch  
[NASA-CASE-XMF-04494-1] c 33 N79-33392

## PRESSURE VESSELS

Liquid rocket system Patent  
[NASA-CASE-XNP-00610] c 28 N70-36910  
Thin-walled pressure vessel Patent  
[NASA-CASE-XLE-04677] c 15 N71-10577  
Gas regulator Patent  
[NASA-CASE-NPO-10298] c 12 N71-17661  
Controlled glass bead peening Patent  
[NASA-CASE-XLA-07390] c 15 N71-18616  
Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093

- Method and apparatus for nondestructive testing of pressure vessels  
[NASA-CASE-NPO-12142-1] c 38 N76-28563
- Gas compression apparatus  
[NASA-CASE-MSC-14757-1] c 35 N78-10428
- Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433
- Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784
- Oxygen recombination in individual pressure vessel nickel-hydrogen batteries  
[NASA-CASE-LEW-13822-1] c 44 N86-25874
- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894
- PRESSURE WELDING**  
Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c 37 N74-21055
- PRESSURIZING**  
Restraining mechanism  
[NASA-CASE-MSC-13054] c 54 N78-17677
- PRESTRESSING**  
Prestressed refractory structure Patent  
[NASA-CASE-XNP-02888] c 18 N71-21068
- Method of manufacture of bonded fiber flywheel --- fiberglass-epoxy  
[NASA-CASE-MFS-23674-1] c 24 N81-29163
- Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482
- Preloaded vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582
- Preloaded brake disc  
[NASA-CASE-MSC-21132-1] c 37 N88-29181
- PRETREATMENT**  
Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471
- Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482
- PRINTED CIRCUITS**  
Electrical feed-through connection for printed circuit boards and printed cable  
[NASA-CASE-XMF-01483] c 14 N69-27431
- Printed cable connector Patent  
[NASA-CASE-XMF-00369] c 09 N70-36494
- Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960
- Electrical spot terminal assembly Patent  
[NASA-CASE-NPO-10034] c 15 N71-17685
- Method of coating circuit paths on printed circuit boards with solder Patent  
[NASA CASE XMF-01599] c 09 N71-20705
- Device for handling printed circuit cards Patent  
[NASA-CASE-MFS-20453] c 15 N71-29133
- Polyimide resin-fiberglass cloth laminates for printed circuit boards  
[NASA-CASE-MFS-20408] c 18 N73-12604
- Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c 10 N73-25243
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MFS-22133-1] c 33 N74-26977
- Connector --- for connecting circuits on different layers of multilayer printed circuit boards  
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- Controlled caging and uncaging mechanism  
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- Solar array strip and a method for forming the same  
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[NASA-CASE-LEW-12775-1] c 44 N79-11468
- Multicolor printing plate joining  
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- Droplet monitoring probe  
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- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
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- Procedure to prepare transparent silica gels  
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- PROCESSING**  
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- PRODUCT DEVELOPMENT**  
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- Tube fabricating process  
[NASA-CASE-LAR-10203-1] c 15 N72-16330
- Process for making diamonds  
[NASA-CASE-MFS-20698-2] c 15 N73-19457
- High power laser apparatus and system  
[NASA-CASE-XLE-2529-2] c 36 N75-27364
- Induced junction solar cell and method of fabrication  
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- Process for preparation of large-particle-size monodisperse latexes  
[NASA-CASE-MFS-25000-1] c 25 N81-19242
- Ion-exchange hollow fibers  
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- Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491
- Fiber optic crossbar switch for automatically patching optical signals  
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- PRODUCTION ENGINEERING**  
Indexed keyed connection Patent  
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[NASA-CASE-XLE-08917] c 15 N71-15597
- Method of making self lubricating fluoride-metal composite materials Patent  
[NASA-CASE-XLE-08511-2] c 18 N71-16105
- Method of making impurity-type semiconductor electrical contacts Patent  
[NASA-CASE-XMF-01016] c 26 N71-17818
- Method of making inflatable honeycomb Patent  
[NASA-CASE-XLA-03492] c 15 N71-22713
- Multilayer porous ionizer Patent  
[NASA-CASE-XNP-04338] c 17 N71-23046
- Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293
- Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618
- Star tracking reticles  
[NASA-CASE-GSC-11188-1] c 14 N73-32320
- Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c 37 N75-26371
- Solar cell collector and method for producing same  
[NASA-CASE-LEW-12552-2] c 44 N79-11472
- Multilevel metallization method for fabricating a metal oxide semiconductor device  
[NASA-CASE-MFS-23541-1] c 76 N79-14906
- Solar array strip and a method for forming the same  
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- Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550
- Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389
- Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
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- Solar cell having improved back surface reflector  
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- Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
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- PROJECTILES**  
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- Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MFS-22287-1] c 75 N76-14931
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- PROJECTIVE GEOMETRY**  
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[NASA-CASE-MFS-23194-1] c 35 N78-17357
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[NASA-CASE-XNP-03853] c 23 N71-21882
- System and method for obtaining wide screen Schlieren photographs  
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[NASA-CASE-NPO-14110-1] c 28 N81-15119
- PROPELLANT CASTING**  
Casting propellant in rocket engine  
[NASA-CASE-LAR-11995-1] c 28 N77-10213
- Solid propellant rocket motor and method of making same  
[NASA-CASE-XLA-01349] c 20 N77-17143
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[NASA-CASE-NPO-14103-1] c 28 N78-31255
- PROPELLANT COMBUSTION**  
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[NASA-CASE-XHQ-01897] c 28 N70-35381
- Control of transverse instability in rocket combustors Patent  
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- PROPELLANT DECOMPOSITION**  
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[NASA-CASE-XMS-00583] c 28 N70-38504
- PROPELLANT GRAINS**  
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- PROPELLANT TANKS**  
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- Slosh suppressing device and method Patent  
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- Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233
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[NASA-CASE-XNP-01390] c 28 N70-41275
- Tank construction for space vehicles Patent  
[NASA-CASE-XMF-01899] c 31 N70-41948
- Method and apparatus for detection and location of microleaks Patent  
[NASA-CASE-XMF-02307] c 14 N71-10779

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Slosh alleviator Patent  
[NASA-CASE-XLA-05749] c 15 N71-19569  
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[NASA-CASE-MSC-12390] c 27 N71-29155  
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[NASA-CASE-MSC-12561-1] c 18 N76-17185  
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Space Shuttle with rail system and aft thrust structure  
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[NASA-CASE-MFS-25878-1] c 18 N84-27787

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Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492  
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[NASA-CASE-XLE-00345] c 15 N70-38020  
Method for continuous variation of propellant flow and  
thrust in propulsive devices Patent  
[NASA-CASE-XLE-00177] c 28 N70-40367  
Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635  
Electrostatic ion rocket engine Patent  
[NASA-CASE-XLE-02066] c 28 N71-15661  
Control of transverse instability in rocket combustors  
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[NASA-CASE-XLE-04603] c 33 N71-21507  
Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023  
Filler valve Patent  
[NASA-CASE-XNP-01747] c 15 N71-23024  
Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781  
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[NASA-CASE-XNP-01855] c 15 N71-28937  
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[NASA-CASE-MFS-23642-2] c 20 N78-27176  
Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787

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Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c 02 N70-34856

**PROPELLER EFFICIENCY**

Over-the-wing propeller  
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Heads up display  
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Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194  
High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

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[NASA-CASE-XAC-03392] c 03 N70-41954

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Electro-thermal rocket Patent  
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Propellant grain for rocket motors Patent  
[NASA-CASE-XGS-03556] c 27 N70-35534  
Composite powerplant and shroud therefor Patent  
[NASA-CASE-XLA-01043] c 28 N71-10780  
Annular slit colloid thruster Patent  
[NASA-CASE-GSC-10709-1] c 28 N71-25213  
Propellant tank pressurization system Patent  
[NASA-CASE-XNP-00650] c 27 N71-28929  
Apparatus for endoscopic examination --- analysis of  
the propulsion system configuration and transmitter  
[NASA-CASE-NPO-14092-1] c 52 N80-16725  
Aerospace vehicle  
[NASA-CASE-LAR-13155-1] c 05 N86-19310  
Propulsion apparatus and method using boil-off gas from  
a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368  
Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828

**PROPULSION SYSTEM PERFORMANCE**

Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067

**PROPYLENE**

Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043

**PROSTHETIC DEVICES**

Tactile sensing means for prosthetic limbs  
[NASA-CASE-MFS-16570-1] c 05 N73-32013  
Orthotic arm joint --- for use in mechanical arms  
[NASA-CASE-MFS-21611-1] c 54 N75-12616  
Actuator device for artificial leg  
[NASA-CASE-MFS-23225-1] c 52 N77-14735  
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[NASA-CASE-NPO-13620-1] c 27 N77-30236  
Rotational joint assembly for the prosthetic leg  
[NASA-CASE-KSC-11004-1] c 54 N77-30749

Mechanical energy storage device for hip  
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[NASA-CASE-ARC-10916-1] c 52 N78-10686  
Method of adhering bone to a rigid substrate using a  
graphite fiber reinforced bone cement  
[NASA-CASE-NPO-13764-1] c 27 N78-17215  
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[NASA-CASE-KSC-11069-1] c 52 N79-26772  
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[NASA-CASE-MFS-23717-1] c 52 N81-25660  
Texturing polymer surfaces by transfer casting ---  
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[NASA-CASE-LEW-13120-1] c 27 N82-28440  
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[NASA-CASE-MFS-25740-1] c 52 N84-11744

**PROTECTION**

Apparatus and method for protecting a photographic  
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[NASA-CASE-NPO-10174] c 14 N71-18465  
Fiber modified polyurethane foam for ballistic  
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Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083

**PROTECTIVE CLOTHING**

Process for conditioning tanned sharkskin and articles  
made therefrom Patent  
[NASA-CASE-XMS-09691-1] c 18 N71-15545  
Biological isolation garment Patent  
[NASA-CASE-MSC-12206-1] c 05 N71-17599  
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[NASA-CASE-XMS-10269] c 05 N71-24147  
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[NASA-CASE-XMS-09637-1] c 05 N71-24730  
Protective suit having an audio transceiver Patent  
[NASA-CASE-KSC-10164] c 07 N71-33108  
Protective garment ventilation system  
[NASA-CASE-XMS-04928] c 54 N78-17679  
Violet-violet process for producing flame resistant  
polyamides and products produced thereby --- protective  
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[NASA-CASE-MSC-16074-1] c 27 N80-26446  
Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-2] c 54 N84-23113  
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[NASA-CASE-XNP-06508] c 18 N69-39895  
Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979  
Process for applying a protective coating for salt bath  
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Method and apparatus for shock protection Patent  
[NASA-CASE-XLA-00482] c 15 N70-36409  
Thermal control of space vehicles Patent  
[NASA-CASE-XLA-01291] c 33 N70-36617  
Process for preparing sterile solid propellants Patent  
[NASA-CASE-XNP-01749] c 27 N70-41897  
Fire resistant coating composition Patent  
[NASA-CASE-GSC-10072] c 18 N71-14014  
Bacteriostatic conformal coating and methods of  
application Patent  
[NASA-CASE-GSC-10007] c 18 N71-16046  
Method of coating carbonaceous base to prevent  
oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00284] c 15 N71-16075  
Method of coating carbonaceous base to prevent  
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Aerodynamic protection for space flight vehicles  
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[NASA-CASE-XNP-02507] c 31 N71-17679  
Heat protection apparatus Patent  
[NASA-CASE-XLA-00892] c 33 N71-17897  
Bismuth-lead coatings for gas bearings used in  
atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c 15 N71-20739  
Alkali metal silicate protective coating Patent  
[NASA-CASE-XGS-04799] c 18 N71-24183  
Process for reducing secondary electron emission  
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[NASA-CASE-XNP-09469] c 24 N71-25555  
Solid state thermal control polymer coating Patent  
[NASA-CASE-XLA-01745] c 33 N71-28903  
Method of coating through-holes Patent  
[NASA-CASE-XMF-05999] c 15 N71-29032  
Potassium silicate zinc coatings  
[NASA-CASE-GSC-10361-1] c 18 N72-23581

Method of coating solar cell with borosilicate glass and  
resultant product  
[NASA-CASE-GSC-11514-1] c 03 N72-24037  
Semiconductor surface protection material  
[NASA-CASE-ERC-10339-1] c 18 N73-30532  
Nonflammable coating compositions --- for use in high  
oxygen environments  
[NASA-CASE-MFS-20486-2] c 27 N74-17283  
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[NASA-CASE-LEW-11179-1] c 27 N76-16229  
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[NASA-CASE-LEW-12550-1] c 24 N77-19170  
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[NASA-CASE-ARC-11042-1] c 24 N78-14096  
Sprayable low density ablator and application process  
[NASA-CASE-MFS-23506-1] c 24 N78-24290  
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[NASA-CASE-ARC-11051-1] c 27 N78-32260  
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[NASA-CASE-XMF-02526-1] c 27 N79-21190  
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[NASA-CASE-ARC-11104-1] c 15 N79-26100  
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gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188  
Heat sealable, flame and abrasion resistant coated fabric  
--- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238  
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silicon-slurry/aluminide coating --- coatings for gas turbine  
engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441  
Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144  
Silicon-slurry/aluminide coating --- protecting gas turbine  
engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795  
Covering solid, film cooled surfaces with a duplex thermal  
barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177  
Heat sealable, flame and abrasion resistant coated  
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[NASA-CASE-MSC-18382-2] c 27 N84-14324  
Method and apparatus for coating substrates using a  
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[NASA-CASE-LEW-13526-1] c 36 N84-22944  
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[NASA-CASE-LEW-13639-2] c 26 N84-27855  
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[NASA-CASE-LEW-13639-1] c 26 N84-33555  
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[NASA-CASE-NPO-15928-1] c 26 N85-29005  
Spray applicator for spraying coatings and other fluids  
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[NASA-CASE-MSC-18852-1] c 37 N85-29283  
Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-1] c 27 N86-19458  
Process for preparing essentially colorless polyimide film  
containing phenoxy-linked diamines  
[NASA-CASE-LAR-13353-1] c 27 N86-29039  
Apparatus for producing oxidation protection coatings  
for polymers  
[NASA-CASE-LEW-14072-2] c 27 N86-32569  
Nickel base coating alloy  
[NASA-CASE-LEW-13834-1] c 26 N87-14482  
Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736  
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[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

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Load cell protection device Patent  
[NASA-CASE-XMS-06782] c 32 N71-15974  
Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085  
Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706

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Protein sterilization method of firefly luciferase using  
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[NASA-CASE-GSC-10225-1] c 06 N73-27086  
Hanging drop crystal growth apparatus and method  
[NASA-CASE-MFS-28206-1-SB] c 76 N88-25356  
Crystal growth apparatus  
[NASA-CASE-MFS-28182-1] c 76 N88-25357

**PROTOCOL (COMPUTERS)**

Multicomputer communication system  
[NASA-CASE-NPO-15433-1] c 32 N85-21428



**PROTON FLUX DENSITY**

Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410

**PROXIMITY**

Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139

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Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577  
Pseudonoise sequence generators with three tap linear feedback shift registers  
[NASA-CASE-NPO-11406] c 08 N73-12175  
Two carrier communication system with single transmitter  
[NASA-CASE-NPO-11548] c 07 N73-26118  
Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MFS-22671-1] c 35 N75-21582  
Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179

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Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878  
Tensile strength testing device Patent  
[NASA-CASE-XNP-05634] c 15 N71-24834

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Dual motion valve with single motion input  
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[NASA-CASE-XMS-01115] c 05 N70-39922

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Instrument for use in performing a controlled Valsalva maneuver Patent  
[NASA-CASE-XMS-01615] c 05 N70-41329

**PULSE AMPLITUDE**

System for monitoring signal amplitude ranges  
[NASA-CASE-XMS-04061-1] c 09 N69-39885  
Analog to digital converter Patent  
[NASA-CASE-XLA-00670] c 08 N71-12501  
Pulse amplitude and width detector Patent  
[NASA-CASE-XMF-06519] c 09 N71-12519  
Analog-to-digital converter  
[NASA-CASE-XNP-00477] c 08 N73-28045  
Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-11389-1] c 33 N77-26387  
Speech analyzer  
[NASA-CASE-GSC-11898-1] c 32 N77-30309  
Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395  
Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

**PULSE AMPLITUDE MODULATION**

Signal ratio system utilizing voltage controlled oscillators Patent  
[NASA-CASE-XMF-04367] c 09 N71-23545  
Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418

**PULSE CODE MODULATION**

Adaptive compression of communication signals Patent  
[NASA-CASE-XLA-03076] c 07 N71-11266  
Bi-polar phase detector and corrector for split phase PCM data signals Patent  
[NASA-CASE-XGS-01590] c 07 N71-12392  
System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042  
Frequency shift keying apparatus Patent  
[NASA-CASE-XGS-01537] c 07 N71-23405  
Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154  
Method and apparatus for frequency-division multiplex communications by digital phase shift of carrier  
[NASA-CASE-NPO-11338] c 08 N72-25208  
Apparatus for deriving synchronizing pulses from pulses in a single channel PCM communications system  
[NASA-CASE-NPO-11302-1] c 07 N73-13149  
Method and apparatus for a single channel digital communications system --- synchronization of received PCM signal by digital correlation with reference signal  
[NASA-CASE-NPO-11302-2] c 32 N74-10132  
Multifunction audio digitizer --- producing direct delta and pulse code modulation  
[NASA-CASE-MSC-13855-1] c 35 N74-17885  
Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12462-1] c 32 N74-20809  
Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12494-1] c 32 N74-20810  
Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c 32 N75-21486  
Compact-bi-phase pulse coded modulation decoder  
[NASA-CASE-KSC-10834-1] c 33 N76-14371

Low distortion receiver for bi-level baseband PCM waveforms

[NASA-CASE-MSC-14557-1] c 32 N76-16249  
Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c 32 N77-12239  
Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570  
Method and apparatus for operating on companded PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513

**PULSE COMMUNICATION**

Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent  
[NASA-CASE-XNP-00911] c 08 N70-41961  
Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c 32 N77-12239  
Memory-based frame synchronizer --- for digital communication systems  
[NASA-CASE-GSC-12430-1] c 60 N82-16747  
Method and apparatus for operating on companded PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513

**PULSE DURATION**

Frequency to analog converter Patent  
[NASA-CASE-XNP-07040] c 08 N71-12500  
Pulse amplitude and width detector Patent  
[NASA-CASE-XMF-06519] c 09 N71-12519  
Variable pulse width multiplier Patent  
[NASA-CASE-XLA-02850] c 09 N71-20447  
Pulse width inverter Patent  
[NASA-CASE-MFS-10068] c 10 N71-25139  
Multivibrator circuit with means to prevent false triggering from supply voltage fluctuations Patent  
[NASA-CASE-ARC-10137-1] c 09 N71-28468  
Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c 33 N74-32711

**PULSE DURATION MODULATION**

Pulse-width modulation multiplier Patent  
[NASA-CASE-XER-09213] c 07 N71-12390  
Variable duration pulse integrator Patent  
[NASA-CASE-XLA-01219] c 10 N71-23084  
Transistor servo system including a unique differential amplifier circuit Patent  
[NASA-CASE-XMF-05195] c 10 N71-24861  
Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418  
Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MSC-13492-1] c 10 N71-28860  
Load current sensor for a series pulse width modulated power supply  
[NASA-CASE-GSC-10656-1] c 09 N72-25249  
Buck/boost regulator  
[NASA-CASE-GSC-12360-1] c 33 N81-19392

**PULSE FREQUENCY MODULATION**

Apparatus for measuring current flow Patent  
[NASA-CASE-XGS-02439] c 14 N71-19431  
Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525  
Noninterruptible digital counting system Patent  
[NASA-CASE-XNP-09759] c 08 N71-24891  
Frequency modulation demodulator threshold extension device Patent  
[NASA-CASE-MSC-12165-1] c 07 N71-33696  
Versatile LDV burst simulator  
[NASA-CASE-LAR-11859-1] c 35 N79-14349

**PULSE GENERATORS**

High voltage pulse generator Patent  
[NASA-CASE-MSC-12178-1] c 09 N71-13518  
Flipflop interrogator and bi-polar current driver Patent  
[NASA-CASE-XGS-03058] c 10 N71-19547  
Pulse modulator providing fast rise and fall times Patent  
[NASA-CASE-XMS-04919] c 09 N71-23270  
Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent  
[NASA-CASE-XGS-03632] c 09 N71-23311  
Resettable monostable pulse generator Patent  
[NASA-CASE-GSC-11139] c 09 N71-27016  
Pulse generating circuit employing switch means on ends of delay line for alternately charging and discharging same Patent  
[NASA-CASE-XNP-00745] c 10 N71-28960  
Pulse coupling circuit  
[NASA-CASE-LEW-10433-1] c 09 N72-22197  
Method and apparatus for nondestructive testing --- using high frequency arc discharges  
[NASA-CASE-MFS-21233-1] c 38 N74-15395  
Random pulse generator  
[NASA-CASE-MSC-14131-1] c 33 N75-19515  
Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189

Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207

**PULSE HEATING**

Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484

**PULSE MODULATION**

Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207

**PULSE RATE**

Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137  
Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c 33 N75-18479

**PULSED LASERS**

Repetitively pulsed, wavelength selective laser Patent  
[NASA-CASE-ERC-10178] c 16 N71-24832  
Dually mode locked Nd:YAG laser  
[NASA-CASE-GSC-11746-1] c 36 N75-19654  
Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477  
Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes in utilizing the transient thermal lens effect  
[NASA-CASE-NPO-14657-1] c 74 N81-17887  
Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418  
Coherently pulsed laser source  
[NASA-CASE-NPO-15111-1] c 36 N82-29589  
Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629

**PULSED RADIATION**

Cyclically operable optical shutter  
[NASA-CASE-NPO-10758] c 14 N73-14427  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-2] c 35 N85-34373  
Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653

**PULSES**

High pulse rate high resolution optical radar system  
[NASA-CASE-NPO-11426] c 07 N73-26119

**PULTRUSION**

Pultrusion die assembly  
[NASA-CASE-LAR-13719-1] c 37 N89-12867

**PUMP SEALS**

Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747  
Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c 37 N74-10474

**PUMPS**

Piezoelectric pump Patent  
[NASA-CASE-XNP-05429] c 26 N71-21824  
Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023  
Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042  
Hydraulic transformer Patent  
[NASA-CASE-MFS-20830] c 15 N71-30028  
Firely pump-metering system  
[NASA-CASE-GSC-10218-1] c 15 N72-21465  
Magnetocaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c 37 N74-27904  
Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154  
Gas-to-hydraulic power converter  
[NASA-CASE-MSC-18794-1] c 44 N83-14693  
Variable speed drive  
[NASA-CASE-GSC-12643-1] c 37 N83-26078  
Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082  
Remotely operable peristaltic pump  
[NASA-CASE-MFS-28059-1] c 37 N86-32738  
Multi-path peristaltic pump  
[NASA-CASE-MSC-20907-1] c 37 N87-18818  
Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950  
Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-2] c 34 N88-23958  
Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133

**PUNCHED CARDS**

File card marker Patent  
[NASA-CASE-XLA-02705] c 08 N71-15908  
Device for handling printed circuit cards Patent  
[NASA-CASE-MFS-20453] c 15 N71-29133

## PUNCHES

Convoluting device for forming convolutions and the like  
Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811

## PURGING

Techniques for insulating cryogenic fuel containers  
Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015  
High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588  
Apparatus for purging systems handling toxic, corrosive,  
noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089  
Purge device for thrust engines Patent  
[NASA-CASE-XMS-04826] c 28 N71-28849  
Purging means and method for Xenon arc lamps  
[NASA-CASE-NPO-11978] c 31 N78-17238

## PURIFICATION

High pressure helium purifier Patent  
[NASA-CASE-XMF-06888] c 15 N71-24044  
Method and apparatus for distillation of liquids Patent  
[NASA-CASE-XNP-08124] c 15 N71-27184  
Targets for producing high purity 1-123  
[NASA-CASE-LEW-10518-3] c 25 N78-27226  
Process for purification of waste water produced by a  
Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 95 N79-17747  
Method of purifying metallurgical grade silicon employing  
reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229  
Membrane consisting of polyquaternary amine ion  
exchange polymer network interpenetrating the chains of  
thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076  
Electromigration process for the purification of molten  
silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105  
Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1CU] c 35 N86-29174

## PURITY

Process for preparation of dianilinosilanes Patent  
[NASA-CASE-XMF-06409] c 06 N71-23230  
Low defect, high purity crystalline layers grown by  
selective deposition  
[NASA-CASE-NPO-15813-1] c 76 N85-30922  
Quasi-containerless glass formation method and  
apparatus  
[NASA-CASE-MFS-28090-1] c 27 N87-21111

## PUSH-PULL AMPLIFIERS

Frequency modulated oscillator  
[NASA-CASE-MFS-23181-1] c 33 N77-17351  
Low current linearization of magnetic amplifier for dc  
transducer  
[NASA-CASE-NPO-14617-1] c 33 N81-24338  
Push-pull converter with energy saving circuit for  
protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404

## PUSHING

Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332

## PYLONS

Decoupler pylon: wing/store flutter suppressor  
[NASA-CASE-LAR-12468-1] c 08 N82-32373  
Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29789

## PYRIDINES

Nuclear alkylated pyridine aldehyde polymers and  
conductive compositions thereof  
[NASA-CASE-NPO-10557] c 27 N78-17214  
Copolymers of vinyl styrylpyridines or vinyl stilbazoles  
with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560  
Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908  
Structural panels  
[NASA-CASE-ARC-11429-2-CU] c 27 N87-22845

## PYROELECTRICITY

Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659  
Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763

## PYROGEN

Molded composite pyrogen igniter for rocket motors ---  
solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275

## PYROLYSIS

Molten salt pyrolysis of latex --- synthetic hydrocarbon  
fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261  
Thermal reactor --- liquid silicon production from silane  
gas  
[NASA-CASE-NPO-14369-1] c 44 N83-10501  
Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428

Ceramic honeycomb structures and the method  
thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737

## PYROLYTIC GRAPHITE

Multislit film cooled pyrolytic graphite rocket nozzle  
Patent  
[NASA-CASE-XNP-04389] c 28 N71-20942  
Ion sputter textured graphite --- anode collector plates  
in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117  
Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565

## PYROLYTIC MATERIALS

Ablation structures Patent  
[NASA-CASE-XMS-01816] c 33 N71-15623

## PYROMETERS

Ablation sensor  
[NASA-CASE-XLA-01781] c 14 N69-39975  
Noncontact temperature pattern measuring device  
[NASA-CASE-NPO-17024-1-CU] c 35 N86-24943

## PYROTECHNICS

Disconnect unit  
[NASA-CASE-NPO-11330] c 33 N73-26958  
Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983

## PYRROLONES (THADEMARK)

Method for forming pyrrolone molding powders and  
products of said method  
[NASA-CASE-LAR-10423-1] c 23 N82-29358

## Q

## Q SWITCHED LASERS

Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c 28 N74-27425  
Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c 36 N77-32478  
Laser Resonator  
[NASA-CASE-GSC-12565-1] c 36 N84-14509

## Q VALUES

Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256

## QUADRANTS

Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764

## QUADRATIC PROGRAMMING

Quadrature demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338

## QUADRATURES

Automatic quadrature control and measuring system ---  
using optical coupling circuitry  
[NASA-CASE-MFS-21660-1] c 35 N74-21017

## QUALITATIVE ANALYSIS

Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428  
Analysis of volatile organic compounds --- trace amounts  
of organic volatiles in gas samples  
[NASA-CASE-MSC-14428-1] c 23 N77-17161  
Fluid sample collection and distribution system ---  
qualitative analysis of aqueous samples from several  
points  
[NASA-CASE-MSC-16841-1] c 34 N79-24285

## QUANTITATIVE ANALYSIS

Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199  
Apparatus for detecting the amount of material in a  
resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397  
Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428  
Nondispersive gas analyzing method and apparatus  
wherein radiation is serially passed through a reference  
and unknown gas  
[NASA-CASE-ARC-10308-1] c 06 N72-31141  
Analysis of volatile organic compounds --- trace amounts  
of organic volatiles in gas samples  
[NASA-CASE-MSC-14428-1] c 23 N77-17161  
Electrophotolysis oxidation system for measurement of  
organic concentration in water  
[NASA-CASE-MSC-16497-1] c 25 N82-12166  
Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849

## QUANTUM THEORY

III-V photocathode with nitrogen doping for increased  
quantum efficiency  
[NASA-CASE-NPO-12134-1] c 33 N76-31409

## QUARTZ

Ultraviolet filter  
[NASA-CASE-XNP-02340] c 23 N69-24332  
Method for attaching a fused-quartz mirror to a  
conductive metal substrate  
[NASA-CASE-MFS-23405-1] c 26 N77-29260  
Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654

Ampoule sealing apparatus and process --- for housing  
a semiconductor growth charge under vacuum  
[NASA-CASE-LAR-12847-1] c 33 N83-16633

## QUARTZ LAMPS

High intensity heat and light unit Patent  
[NASA-CASE-XLA-00141] c 09 N70-33312  
Light shield and cooling apparatus --- high intensity  
ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c 34 N74-23066

## QUINOXALINES

Polyphenylquinoxalines containing pendant  
phenylethynyl and ethynyl groups --- for thermoplastic  
resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040  
Polyphenylquinoxalines via aromatic nucleophilic  
displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814

## R

## RACKS (FRAMES)

Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267  
Thrust-isolating mounting --- characteristics of support  
for loads mounted in spacecraft  
[NASA CASE MFS-21000-1] c 19 N74-27097  
Automated syringe sampler --- remote sampling of air  
and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407  
Laboratory glassware rack for seismic safety  
[NASA-CASE-ARC-11422-1] c 35 N86-20751

## RADAR ANTENNAS

Radar antenna system for acquisition and tracking  
Patent  
[NASA-CASE-XMS-09610] c 07 N71-24625  
Variable beamwidth antenna --- with multiple beam,  
variable feed system  
[NASA-CASE-GSC-11862-1] c 32 N76-18295  
Highly efficient antenna system using a corrugated horn  
and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365  
Baseband signal combiner for large aperture antenna  
array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308

## RADAR ATTENUATION

FM/CW radar system  
[NASA-CASE-MFS-22234-1] c 32 N79-10264

## RADAR BEACONS

Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

## RADAR BEAMS

Method and apparatus for measuring frequency and  
phase difference  
[NASA-CASE-MSC-20865-1] c 32 N87-18692

## RADAR CROSS SECTIONS

Almond test body --- for microwave anechoic  
chambers  
[NASA-CASE-LAR-13747-1] c 32 N88-24845

## RADAR DATA

Charge-coupled device data processor for an airborne  
imaging radar system  
[NASA-CASE-NPO-13587-1] c 32 N77-32342

## RADAR DETECTION

Method and apparatus for measuring frequency and  
phase difference  
[NASA-CASE-MSC-20865-1] c 32 N87-18692

## RADAR ECHOES

Charge-coupled device data processor for an airborne  
imaging radar system  
[NASA-CASE-NPO-13587-1] c 32 N77-32342

## RADAR EQUIPMENT

Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118  
FM/CW radar system  
[NASA-CASE-MFS-22234-1] c 32 N79-10264

## RADAR IMAGERY

Method of locating persons in distress --- by using radar  
imagery from radar reflectors  
[NASA-CASE-LAR-11390-1] c 32 N77-21267  
Multibeam single frequency synthetic aperture radar  
processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-1] c 32 N79-19195  
Radar target for remotely sensing hydrological  
phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498  
Real-time multiple-look synthetic aperture radar  
processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297  
Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968  
Multibeam single frequency synthetic aperture radar  
processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918

- Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711
- RADAR MEASUREMENT**  
Thickness measurement system  
[NASA-CASE-MFS-23721-1] c 31 N79-28370
- RADAR RANGE**  
Radar ranging receiver Patent  
[NASA-CASE-XNP-00748] c 07 N70-36911
- RADAR RECEIVERS**  
Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864
- RADAR RECEPTION**  
Radar ranging receiver Patent  
[NASA-CASE-XNP-00748] c 07 N70-36911
- RADAR REFLECTORS**  
Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063  
Method of locating persons in distress --- by using radar imagery from radar reflectors  
[NASA-CASE-LAR-11390-1] c 32 N77-21267
- RADAR TARGETS**  
Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498  
Synthetic aperture radar target simulator  
[NASA-CASE-NPO-15024-1] c 32 N84-27951
- RADAR TRACKING**  
Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854  
Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864  
Monopulse tracking system Patent  
[NASA-CASE-XGS-01155] c 10 N71-21483  
Radar calibration sphere  
[NASA-CASE-XLA-11154] c 07 N72-21117  
Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376
- RADAR TRANSMITTERS**  
High pulse rate high resolution optical radar system  
[NASA-CASE-NPO-11426] c 07 N73-26119
- RADIAL DISTRIBUTION**  
Ultrasonic transducer with Gaussian radial pressure distribution  
[NASA-CASE-LAR-12967-1] c 35 N84-22932
- RADIAL FLOW**  
Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948  
Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c 37 N76-18459
- RADIANCE**  
Shock-layer radiation measurement  
[NASA-CASE-XAC-02970] c 14 N69-39896
- RADIANT COOLING**  
Direct radiation cooling of the collector of linear beam tubes  
[NASA-CASE-XNP-09227] c 15 N69-24319  
Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875  
Method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MFS-23405-1] c 26 N77-29260  
Radiative cooler --- spacecraft radiators  
[NASA-CASE-NPO-15465-1] c 34 N84-22903  
Liquid sheet radiator apparatus  
[NASA-CASE-LEW-14295-1] c 31 N89-14348
- RADIANT FLUX DENSITY**  
High intensity radiant energy pulse source having means for opening shutter when light flux has reached a desired level  
[NASA-CASE-ARC-10178-1] c 09 N72-17152  
Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287
- RADIANT HEATING**  
High intensity heat and light unit Patent  
[NASA-CASE-XLA-00141] c 09 N70-33312  
High temperature heat source Patent  
[NASA-CASE-XLE-00490] c 33 N70-34545  
Radiant heater having formed filaments Patent  
[NASA-CASE-XLE-00387] c 33 N70-34812  
Ceramic insulation for radiant heating environments and method of preparing the same Patent  
[NASA-CASE-MFS-14253] c 33 N71-24858  
Portable linear-focused solar thermal energy collecting system  
[NASA-CASE-NPO-13734-1] c 44 N78-10554  
High thermal power density heat transfer --- thermionic converters  
[NASA-CASE-LEW-12950-1] c 34 N82-11399
- RADIATION**  
Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409  
Irradiance measuring device  
[NASA-CASE-NPO-11493] c 14 N73-12447
- Analog to digital converter for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-3] c 60 N77-32731  
Memory device for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-2] c 60 N78-10709
- RADIATION ABSORPTION**  
NDIR gas analyzer based on absorption modulation ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c 35 N75-30502  
Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469  
Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-19597
- RADIATION COUNTERS**  
Particle detection apparatus Patent  
[NASA-CASE-XLA-00135] c 14 N70-33322  
Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent  
[NASA-CASE-XGS-00466] c 21 N70-34297  
Particle beam measurement apparatus using beam kinetic energy to change the heat sensitive resistance of the detection probe Patent  
[NASA-CASE-XLE-00243] c 14 N70-38602  
Baseline stabilization system for ionization detector Patent  
[NASA-CASE-XNP-03128] c 10 N70-41991  
Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560  
Dosimeter for high levels of absorbed radiation Patent  
[NASA-CASE-XLA-03645] c 14 N71-20430  
Coincidence apparatus for detecting particles  
[NASA-CASE-XLA-07813] c 14 N72-17328  
Radiation and particle detector and amplifier  
[NASA-CASE-NPO-12128-1] c 14 N73-32317  
Coaxial anode wire for gas radiation counters  
[NASA-CASE-GSC-11492-1] c 35 N74-26949  
Particle parameter analyzing system --- x-y plotter circuits and display  
[NASA-CASE-XLE-06094] c 33 N78-17293  
Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334  
Ion mass spectrometer  
[NASA-CASE-NPO-15423-1] c 35 N84-28016  
Radionuclide counting technique for measuring wind velocity and direction  
[NASA-CASE-LAR-12971-1] c 47 N84-28292
- RADIATION DAMAGE**  
Semiconductor material and method of making same Patent  
[NASA-CASE-XLE-02798] c 26 N71-23654  
Recovery of radiation damaged solar cells through thermal annealing  
[NASA-CASE-XGS-04047-2] c 03 N72-11062  
Photomultiplier circuit including means for rapidly reducing the sensitivity thereof --- and protection from radiation damage  
[NASA-CASE-ARC-10593-1] c 33 N74-27682  
Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875
- RADIATION DETECTORS**  
Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MSC-12280] c 27 N71-16348  
Light detection instrument Patent  
[NASA-CASE-XGS-05534] c 23 N71-16355  
Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880  
Extended area semiconductor radiation detectors and a novel readout arrangement Patent  
[NASA-CASE-XGS-03230] c 14 N71-23401  
Nondispersive gas analyzing method and apparatus wherein radiation is serially passed through a reference and unknown gas  
[NASA-CASE-ARC-10308-1] c 06 N72-31141  
Radiant source tracker independent of nonconstant irradiance  
[NASA-CASE-NPO-11686] c 14 N73-25462  
Radiation and particle detector and amplifier  
[NASA-CASE-NPO-12128-1] c 14 N73-32317  
Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c 35 N74-15091  
High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c 35 N74-18088  
Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410  
Wide angle sun sensor --- consisting of cylinder, insulation and pair of detectors  
[NASA-CASE-NPO-13327-1] c 35 N75-23910
- Detector absorptivity measuring method and apparatus  
[NASA-CASE-LAR-10907-1] c 35 N76-29551  
Wedge immersed thermistor bolometers  
[NASA-CASE-XGS-01245-1] c 35 N79-33449  
X-ray position detector  
[NASA-CASE-NPO-12087-1] c 74 N81-19898  
Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-19597  
Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311  
Method and apparatus for precision control of radiometer  
[NASA-CASE-NPO-15398-1] c 35 N84-22931  
Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127  
Apparatus and procedure to detect a liquid-solid interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713
- RADIATION DISTRIBUTION**  
Space simulator Patent  
[NASA-CASE-XNP-00459] c 11 N70-38675
- RADIATION DOSAGE**  
Dosimeter for high levels of absorbed radiation Patent  
[NASA-CASE-XLA-03645] c 14 N71-20430  
Method for analyzing radiation sensitivity of integrated circuits  
[NASA-CASE-NPO-14350-1] c 33 N80-14332  
Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311
- RADIATION EFFECTS**  
Method of temperature compensating semiconductor strain gages Patent  
[NASA-CASE-XLA-04555-1] c 14 N71-25892
- RADIATION HARDENING**  
Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c 76 N74-20329
- RADIATION HAZARDS**  
Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311
- RADIATION MEASUREMENT**  
Irradiance measuring device  
[NASA-CASE-NPO-11493] c 14 N73-12447
- RADIATION MEASURING INSTRUMENTS**  
Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432  
Infrared scanner Patent  
[NASA-CASE-XLA-00120] c 21 N70-33181  
Instrument for the quantitative measurement of radiation at multiple wave lengths Patent  
[NASA-CASE-XLE-00011] c 14 N70-41946  
Method for improving the signal-to-noise ratio of the Wheatstone bridge type bolometer Patent  
[NASA-CASE-XLA-02810] c 14 N71-25901  
Irradiance measuring device  
[NASA-CASE-NPO-11493] c 14 N73-12447  
Phototransistor  
[NASA-CASE-MFS-20407] c 09 N73-19235  
Method and apparatus for measuring electromagnetic radiation  
[NASA-CASE-LEW-11159-1] c 14 N73-28488  
Compton scatter attenuation gamma ray spectrometer  
[NASA-CASE-MFS-21441-1] c 14 N73-30392  
Coaxial anode wire for gas radiation counters  
[NASA-CASE-GSC-11492-1] c 35 N74-26949  
Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232
- RADIATION MEDICINE**  
Method of producing I-123 --- by bombardment of cesium causing spallation  
[NASA-CASE-LEW-11390-2] c 25 N76-27383
- RADIATION PROTECTION**  
Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c 33 N71-28852  
Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440  
Photomultiplier circuit including means for rapidly reducing the sensitivity thereof --- and protection from radiation damage  
[NASA-CASE-ARC-10593-1] c 33 N74-27682  
Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036  
Hazards protection for space suits and spacecraft  
[NASA-CASE-MSC-21366-1] c 54 N89-12206
- RADIATION SHIELDING**  
Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422  
Ionization vacuum gauge with all but the end of the ion collector shielded Patent  
[NASA-CASE-XLA-07424] c 14 N71-18482

Sealed cabinetry Patent  
[NASA-CASE-MS-C-12168-1] c 09 N71-18600  
Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781  
Zero gravity shadow shield aligner  
[NASA-CASE-KSC-10622-1] c 31 N72-21893  
Light shield and cooling apparatus --- high intensity  
ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c 34 N74-23066

**RADIATION SOURCES**

Sight switch using an infrared source and sensor  
Patent  
[NASA-CASE-XMF-03934] c 09 N71-22985  
Apparatus for obtaining isotropic irradiation of a  
specimen  
[NASA-CASE-MFS-20095] c 24 N72-11595  
Radiant source tracker independent of nonconstant  
irradiance  
[NASA-CASE-NPO-11686] c 14 N73-25462  
High powered arc electrodes --- producing solar  
simulator radiation  
[NASA-CASE-LEW-11162-1] c 33 N74-12913  
Electric arc light source having undercut recessed  
anode  
[NASA-CASE-ARC-10266-1] c 33 N75-29318

**RADIATION SPECTRA**

Магнетрон spectrograph Patent  
[NASA-CASE-XLA-10402] c 14 N71-29041

**RADIATION THERAPY**

Cervix-to-rectum measuring device in a radiation  
applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875

**RADIATION TOLERANCE**

Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979  
Method of making a silicon semiconductor device  
Patent  
[NASA-CASE-XLE-02792] c 26 N71-10607  
Radiation resistant silicon semiconductor devices  
Patent  
[NASA-CASE-XGS-07801] c 09 N71-12513  
Radiation hardening of MOS devices by boron --- for  
stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c 76 N75-25730  
Method for analyzing radiation sensitivity of integrated  
circuits  
[NASA-CASE-NPO-14350-1] c 33 N80-14332  
Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875

**RADIATIVE HEAT TRANSFER**

Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459  
Capillary radiator Patent  
[NASA-CASE-XLE-03307] c 33 N71-14035  
Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641  
Construction and method of arranging a plurality of ion  
engines to form a cluster Patent  
[NASA-CASE-XNP-02923] c 28 N71-23081  
Apparatus and method for heating a material in a  
transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220

**RADIATORS**

Self-adjusting multisegment, deployable, natural  
circulation radiator Patent  
[NASA-CASE-XHQ-03673] c 33 N71-29046

**RADIO ANTENNAS**

Parasitic probe antenna Patent  
[NASA-CASE-XKS-09348] c 09 N71-13521  
VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614  
Unfurlable structure including coiled strips thrust  
launched upon tension release Patent  
[NASA-CASE-HQN-00937] c 07 N71-28979  
Highly efficient antenna system using a corrugated horn  
and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365  
Switched steerable multiple beam antenna system  
[NASA-CASE-MS-C-20873-1-SB] c 32 N89-11961

**RADIO ASTRONOMY**

Millimeter wave radiometer for radio astronomy Patent  
[NASA-CASE-XNP-09832] c 30 N71-23723

**RADIO BEACONS**

RF beam center location method and apparatus for  
power transmission system  
[NASA-CASE-NPO-13821-1] c 44 N78-28594  
Legislated emergency locating transmitters and  
emergency position indicating radio beacons  
[NASA-CASE-GSC-12892-1] c 32 N89-14374

**RADIO COMMUNICATION**

System for synchronizing synthesizers of communication  
systems  
[NASA-CASE-GSC-12148-1] c 32 N79-20296  
Antimultipath communication by injecting tone into null  
in signal spectrum  
[NASA-CASE-NPO-16414-1-CU] c 32 N87-25511

**RADIO CONTROL**

RF controlled solid state switch  
[NASA-CASE-ARC-10136-1] c 09 N72-22202  
Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863

**RADIO EQUIPMENT**

System for synchronizing synthesizers of communication  
systems  
[NASA-CASE-GSC-12148-1] c 32 N79-20296

**RADIO FREQUENCIES**

Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c 07 N69-24323  
Automatic gain control system  
[NASA-CASE-XMS-05307] c 09 N69-24330  
Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436  
Automatic frequency discriminators and control for a  
phase-lock loop providing frequency preset capabilities  
Patent  
[NASA-CASE-XMF-08665] c 10 N71-19467  
Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174  
Radio frequency coaxial high pass filter Patent  
[NASA-CASE-XGS-01418] c 09 N71-23573  
Variable frequency nuclear magnetic resonance  
spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266  
Signal path series step biased multidevice high efficiency  
amplifier Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430  
Method and apparatus for sputtering utilizing an  
apertured electrode and a pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c 17 N73-24569  
RF-source resistance meters  
[NASA-CASE-NPO-11291-1] c 14 N73-30388  
Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c 32 N76-14321  
Ion and electron detector for use in an ICR  
spectrometer  
[NASA-CASE-NPO-13479-1] c 35 N77-10492  
Radio frequency arraying method for receivers  
[NASA-CASE-NPO-14328-1] c 32 N80-18253  
Precise RF timing signal distribution to remote stations  
--- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186  
Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996  
High stability buffered phase comparator  
[NASA-CASE-GSC-12645-1] c 33 N84-16454  
Linearized traveling wave amplifier with hard limiter  
characteristics  
[NASA-CASE-LEW-13981-2] c 33 N86-21742  
Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234  
Antimultipath communication by injecting tone into null  
in signal spectrum  
[NASA-CASE-NPO-16414-1-CU] c 32 N87-25511  
Radio Frequency (RF) strain monitor  
[NASA-CASE-LAR-13705-1] c 39 N88-25011

**RADIO FREQUENCY DISCHARGE**

Electric discharge for treatment of trace contaminants  
[NASA-CASE-ARC-10975-1] c 33 N79-15245

**RADIO FREQUENCY HEATING**

Gyrotron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952

**RADIO FREQUENCY INTERFERENCE**

Parametric microwave noise generator Patent  
[NASA-CASE-XER-11019] c 09 N71-23598  
System for interference signal nulling by polarization  
adjustment  
[NASA-CASE-NPO-13140-1] c 32 N75-24982  
Systems and methods for determining radio frequency  
interference  
[NASA-CASE-GSC-12150-1] c 32 N79-11265  
Apparatus and method for determining the position of  
a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341  
Method and apparatus for measuring distance  
[NASA-CASE-MS-C-20912-1] c 32 N88-26568

**RADIO FREQUENCY SHIELDING**

Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701  
Process for making RF shielded cable connector  
assemblies and the products formed thereby  
[NASA-CASE-GSC-11215-1] c 09 N73-28083

**RADIO INTERFEROMETERS**

System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603

**RADIO PROBING**

Method and apparatus for calibrating the ionosphere  
and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846

**RADIO RECEIVERS**

Multiple input radio receiver Patent  
[NASA-CASE-XLA-00901] c 07 N71-10775

Optimum predetection diversity receiving system  
Patent  
[NASA-CASE-XGS-00740] c 07 N71-23098  
Radio frequency arraying method for receivers  
[NASA-CASE-NPO-14328-1] c 32 N80-18253  
Interferometric locating system  
[NASA-CASE-NPO-14173-1] c 04 N80-32359

**RADIO RELAY SYSTEMS**

Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900  
Systems and methods for determining radio frequency  
interference  
[NASA-CASE-GSC-12150-1] c 32 N79-11265

**RADIO SIGNALS**

Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309  
Millimeter wave radiometer for radio astronomy Patent  
[NASA-CASE-XNP-09832] c 30 N71-23723

**RADIO SOURCES (ASTRONOMY)**

Conical scan tracking system employing a large  
antenna  
[NASA-CASE-NPO-14009-1] c 32 N79-13214

**RADIO STARS**

Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174

**RADIO TELEMETRY**

Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23001

**RADIO TELESCOPES**

Antenna grout replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043

**RADIO TRANSMITTERS**

Vehicle locating system utilizing AM broadcasting station  
carriers  
[NASA-CASE-NPO-13217-1] c 32 N75-26194  
Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MFS-16609-3] c 03 N76-32140  
Low-frequency radio navigation system  
[NASA-CASE-NPO-15264-1] c 04 N84-27713  
Antimultipath communication by injecting tone into null  
in signal spectrum  
[NASA-CASE-NPO-16414-1-CU] c 32 N87-25511

**RADIO WAVES**

Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701

**RADIOACTIVE ISOTOPES**

Thermally cascaded thermoelectric generator  
[NASA-CASE-NPO-10753] c 03 N72-26031  
Protected isotope heat source --- for atmospheric reentry  
protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876  
Radionuclide counting technique for measuring wind  
velocity and direction  
[NASA-CASE-LAR-12971-1] c 47 N84-28292

**RADIOBIOLOGY**

Production of high purity I-123  
[NASA-CASE-LEW-10518-1] c 24 N72-33681

**RADIOGRAPHY**

Determination of spot weld quality Patent  
[NASA-CASE-XNP-02588] c 15 N71-18613  
Method and system for in vivo measurement of bone  
tissue using a two level energy source  
[NASA-CASE-MS-C-14276-1] c 52 N77-14737  
Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388  
Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389  
X-ray determination of parts alignment  
[NASA-CASE-MS-C-20418-1] c 74 N86-20126  
Method of radiographic inspection of wooden  
members  
[NASA-CASE-LAR-13724-1] c 38 N88-23983

**RADIOLOGY**

Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996

**RADIOLYSIS**

Process for making anhydrous metal halides  
[NASA-CASE-LEW-11860-1] c 37 N76-18458

**RADIOMETERS**

Compensating radiometer  
[NASA-CASE-XLA-04556] c 14 N69-27484  
Conically shaped cavity radiometer with a dual purpose  
cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475  
Black body cavity radiometer Patent  
[NASA-CASE-NPO-10810] c 14 N71-27323  
Thermoelectric radiometer utilizing polymer film  
[NASA-CASE-ARC-10138-1] c 14 N72-24477  
Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409  
Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437  
Method and apparatus for measuring solar activity and  
atmospheric radiation effects  
[NASA-CASE-ERC-10276] c 14 N73-26432

- Steady state thermal radiometers  
[NASA-CASE-MFS-21108-1] c 34 N74-27861  
Method and apparatus for precision control of radiometer  
[NASA-CASE-NPO-15398-1] c 35 N84-22931
- RADIOSONDES**  
Induction powered biological radiosonde  
[NASA-CASE-ARC-11120-1] c 52 N80-18691
- RAIN**  
Precipitation detector Patent  
[NASA-CASE-XLA-02619] c 10 N71-26334  
Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212
- RAMJET ENGINES**  
Telescoping-spike supersonic inlet for aircraft engines Patent  
[NASA-CASE-XLE-00005] c 28 N70-39899  
Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168
- RAMPS (STRUCTURES)**  
Automated multi-level vehicle parking system  
[NASA-CASE-NPO-13058-1] c 37 N77-22480
- RANDOM ACCESS MEMORY**  
Memory-based frame synchronizer --- for digital communication systems  
[NASA-CASE-GSC-12430-1] c 60 N82-16747  
Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491  
Hybrid analog-digital associative neural network  
[NASA-CASE-NPO-17058-1-CU] c 62 N87-25803
- RANDOM LOADS**  
Fatigue testing device Patent  
[NASA-CASE-XLA-02131] c 32 N70-42003
- RANDOM NOISE**  
Noise limiter Patent  
[NASA-CASE-NPO-10169] c 10 N71-24844  
Digital servo control of random sound test excitation --- in reverberant acoustic chamber  
[NASA-CASE-NPO-11623-1] c 71 N74-31148  
Random pulse generator  
[NASA-CASE-MSC-14131-1] c 33 N75-19515  
Pseudo noise code and data transmission method and apparatus  
[NASA-CASE-GSC-12017-1] c 32 N77-30308  
Low phase noise oscillator using two parallel connected amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232
- RANGE (EXTREMES)**  
Logarithmic circuit with wide dynamic range  
[NASA-CASE-GSC-12145-1] c 33 N78-32339
- RANGE AND RANGE RATE TRACKING**  
Range and range rate system  
[NASA-CASE-MSC-20867-1] c 36 N88-24958
- RANGE FINDERS**  
Closed loop ranging system Patent  
[NASA-CASE-XNP-01501] c 21 N70-41930  
Digital demodulator-correlator  
[NASA-CASE-NPO-13982-1] c 32 N79-14267  
Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629  
Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266
- RANGEFINDING**  
Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391  
Ranging system Patent  
[NASA-CASE-NPO-10066] c 09 N71-18598  
Binary coded sequential acquisition ranging system  
[NASA-CASE-NPO-11194] c 08 N72-25209  
Code regenerative clean-up loop transponder for a mu-type ranging system  
[NASA-CASE-NPO-11707] c 07 N73-25161  
Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015
- RARE EARTH COMPOUNDS**  
Didymium hydrate additive to nickel hydroxide electrodes Patent  
[NASA-CASE-XGS-03505] c 03 N71-10608  
High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455
- RARE GASES**  
Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c 36 N75-32441  
Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253  
Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304
- RAREFIED GASES**  
Magnetically controlled plasma accelerator Patent  
[NASA-CASE-XLA-00327] c 25 N71-29184
- RATES (PER TIME)**  
Rate data encoder  
[NASA-CASE-LAR-10128-1] c 08 N73-20217  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629
- RC CIRCUITS**  
Pulse counting circuit which simultaneously indicates the occurrence of the nth pulse Patent  
[NASA-CASE-XMF-00906] c 09 N70-41655  
RC rate generator for slow speed measurement Patent  
[NASA-CASE-XMF-02966] c 10 N71-24863  
Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-XNP-01068] c 10 N71-28739  
Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256  
RC networks and amplifiers employing the same  
[NASA-CASE-XAC-05462-2] c 10 N72-17171  
Active RC networks  
[NASA-CASE-ARC-10020] c 10 N72-17172  
Multiloop RC active filter apparatus having low parameter sensitivity with low amplifier gain  
[NASA-CASE-ARC-10192] c 09 N72-21245  
Temperature control system with a pulse width modulated bridge  
[NASA-CASE-NPO-11304] c 14 N73-26430  
Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c 33 N75-19520
- REACTION BONDING**  
Fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-2] c 27 N87-27810
- REACTION CONTROL**  
Voice operated controller Patent  
[NASA-CASE-XLA-04063] c 31 N71-33160
- REACTION KINETICS**  
Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174
- REACTION PRODUCTS**  
Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848
- REACTION TIME**  
Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179
- REACTION WHEELS**  
Reaction wheel scanner Patent  
[NASA-CASE-XGS-02629] c 14 N71-21082  
Gravity gradient attitude control system Patent  
[NASA-CASE-GSC-10555-1] c 21 N71-27324  
Emitted vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670
- REACTIVITY**  
Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20597
- REACTOR CORES**  
Uninsulated in-core thermionic diode  
[NASA-CASE-NPO-10542] c 09 N72-27228
- REACTOR DESIGN**  
Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920  
Thermal reactor --- liquid silicon production from silane gas  
[NASA-CASE-NPO-14369-1] c 44 N83-10501
- REACTOR MATERIALS**  
Zirconium modified nickel-copper alloy  
[NASA-CASE-LEW-12245-1] c 26 N77-20201
- REACTOR PHYSICS**  
Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920
- READ-ONLY MEMORY DEVICES**  
Method and apparatus for operating on compacted PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513
- READERS**  
Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372
- READOUT**  
Flow angle sensor and read out system Patent  
[NASA-CASE-XLE-04503] c 14 N71-24864  
Plural position switch status and operativeness checker Patent  
[NASA-CASE-XLA-08799] c 10 N71-27272  
Magneto-optic detection system with noise cancellation  
[NASA-CASE-NPO-11954-1] c 35 N78-29421
- REAGENTS**  
Method of dispensing reagent chemicals in space  
[NASA-CASE-LAR-13607-1-CU] c 29 N88-29048
- REAL TIME OPERATION**  
Respiratory analysis system and method  
[NASA-CASE-MSC-13436-1] c 05 N73-32015  
Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c 35 N74-17153  
Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MFS-22537-1] c 35 N75-27328  
Carbon monoxide monitor --- using real time operation  
[NASA-CASE-MFS-22060-1] c 35 N75-29380  
Real time analysis of voiced sounds  
[NASA-CASE-NPO-13465-1] c 32 N76-31372  
Real time reflectometer --- measurement of specular reflectance  
[NASA-CASE-MFS-23118-1] c 35 N77-31465  
Contour detector and data acquisition system for the left ventricular outline  
[NASA-CASE-ARC-10985-1] c 52 N79-10724  
Azimuth correlator for real-time synthetic aperture radar image processing  
[NASA-CASE-NPO-14019-1] c 32 N79-14268  
System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603  
X-ray position detector  
[NASA-CASE-NPO-12087-1] c 74 N81-19898  
Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297  
Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651  
Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348  
Real-time garbage collection for list processing  
[NASA-CASE-MSC-20964-1] c 60 N87-14863  
Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301  
Real-time image difference detection using a polarization rotation spacial light modulator  
[NASA-CASE-NPO-17144-1-CU] c 74 N88-25305  
Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078
- REATTACHED FLOW**  
Method and apparatus for detecting laminar flow separation and reattachment  
[NASA-CASE-LAR-13952-1-SB] c 34 N88-24910
- REBREATHING**  
Portable breathing system --- a breathing apparatus using a rebreathing system of heat exchangers for carbon dioxide removal  
[NASA-CASE-MSC-16182-1] c 54 N80-10799
- RECEIVERS**  
System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MSC-12259-1] c 07 N70-12616  
Receiver with an improved phase lock loop in a multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c 07 N73-28012  
Automatic carrier acquisition system  
[NASA-CASE-NPO-11628-1] c 07 N73-30113  
Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c 32 N74-30523  
Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249  
Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346  
Self-calibrating threshold detector  
[NASA-CASE-MSC-16370-1] c 35 N81-19427  
Method and apparatus for receiving and tracking phase modulated signals  
[NASA-CASE-MSC-16170-2] c 32 N84-27952  
Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723  
High dynamic global positioning system receiver  
[NASA-CASE-NPO-16171-1CU] c 04 N86-27270
- RECIPROCATION**  
Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082  
Reciprocating linear motor  
[NASA-CASE-GSC-12773-2] c 33 N87-23904
- RECOMBINATION REACTIONS**  
Oxygen recombination in individual pressure vessel nickel-hydrogen batteries  
[NASA-CASE-LEW-13822-1] c 44 N86-25874
- RECONSTRUCTION**  
Method and means for recording and reconstructing holograms without use of a reference beam Patent  
[NASA-CASE-ERC-10020] c 16 N71-26154

## RECORDING HEADS

Electromagnetic transducer recording head having a laminated core section and tapered gap  
[NASA-CASE-NPO-10711-1] c 35 N77-21392

## RECORDING INSTRUMENTS

Automatic force measuring system Patent  
[NASA-CASE-XLA-02605] c 14 N71-10773  
Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317  
Helical recorder arrangement for multiple channel recording on both sides of the tape  
[NASA-CASE-GSC-10614-1] c 09 N72-11224  
Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c 36 N74-13205  
Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946  
Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c 35 N74-32877

## RECOVERABILITY

Ejectable underwater sound source recovery assembly  
[NASA-CASE-LAR-10595-1] c 35 N74-16135

## RECOVERABLE LAUNCH VEHICLES

Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176  
Orbiter/launch system  
[NASA-CASE-LAR-12250-1] c 14 N81-26161

## RECOVERABLE SPACECRAFT

Space capsule ejection assembly Patent  
[NASA-CASE-XMF-03169] c 31 N71-15675

## RECOVERY PARACHUTES

Vehicle parachute and equipment jettison system Patent  
[NASA-CASE-XLA-00195] c 02 N70-38009  
Vortex breach high pressure gas generator  
[NASA-CASE-LAR-10549-1] c 31 N73-13898

## RECTANGULAR PANELS

Stacked solar cell arrays  
[NASA-CASE-NPO-11771] c 03 N73-20040  
Composite sandwich lattice structure  
[NASA-CASE-LAR-11898-1] c 24 N78-10214

## RECTIFIERS

Thin window, drifted silicon, charged particle detector  
[NASA-CASE-XLE-10529] c 14 N69-23191  
Power control circuit  
[NASA-CASE-XNP-02713] c 10 N69-39888  
Precision rectifier with FET switching means Patent  
[NASA-CASE-ARC-10101-1] c 09 N71-33109  
SCR lamp driver  
[NASA-CASE-GSC-10221-1] c 09 N72-23171  
A dc to ac to dc converter having transistor synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c 09 N72-25253  
Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393

## RECTUM

Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875

## REDOX CELLS

Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524  
Zirconium carbide as an electrocatalyst for the chromous-chromic redox couple  
[NASA-CASE-LEW-13246-1] c 44 N83-27344  
Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205  
Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721  
Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680

## REDUCED GRAVITY

Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988  
Mass measuring system Patent  
[NASA-CASE-XMS-03371] c 05 N70-42000  
Reduced gravity simulator Patent  
[NASA-CASE-XLA-01787] c 11 N71-16028  
Restraint system for ergometer  
[NASA-CASE-MFS-21046-1] c 14 N73-27377  
Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442  
Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283  
Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495  
Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

Gas particle radiator  
[NASA-CASE-LEW-14297-1] c 35 N89-12048  
Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843  
Don/doff support stand for use with rear entry space suits  
[NASA-CASE-MSC-21364-1] c 54 N89-13889

## REDUCTION

Method and apparatus for reducing speckle  
[NASA-CASE-LAR-13771-1] c 36 N89-14428

## REDUCTION (CHEMISTRY)

Production of metal powders  
[NASA-CASE-XLE-06461] c 17 N72-22530  
Process for making anhydrous metal halides  
[NASA-CASE-LEW-11860-1] c 37 N76-18458  
Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514  
Hydrosulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743

## REDUNDANCY

Reconfiguring redundancy management  
[NASA-CASE-MSC-18498-1] c 60 N82-29013

## REDUNDANT COMPONENTS

Redundant memory organization Patent  
[NASA-CASE-GSC-10504] c 10 N71-29135  
Redundant disc  
[NASA-CASE-LEW-12496-1] c 07 N78-33101  
Redundant motor drive system  
[NASA-CASE-MFS-23777-1] c 37 N80-32716  
Redundant operation of counter modules  
[NASA-CASE-NPO-14162-1] c 60 N81-15706

## REELS

Method and apparatus for measuring web material wound on a reel  
[NASA-CASE-GSC-11902-1] c 38 N77-17495  
Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669

## REENTRY COMMUNICATION

Electrostatic plasma modulator for space vehicle re-entry communication Patent  
[NASA-CASE-XLA-01400] c 07 N70-41331  
Means for communicating through a layer of ionized gases Patent  
[NASA-CASE-XLA-01127] c 07 N70-41372  
Reentry communication by material addition Patent  
[NASA-CASE-XLA-01552] c 07 N71-11284

## REENTRY SHIELDING

Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075  
Method and apparatus for making a heat insulating and ablative structure Patent  
[NASA-CASE-XMS-02009] c 33 N71-20834  
Stand-off type ablative heat shield  
[NASA-CASE-MSC-12143-1] c 33 N72-17947  
Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876  
Fibrous refractory composite insulation --- shielding reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062  
Adjustable high emittance gap filler --- reentry shielding for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339  
Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520  
Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628

## REENTRY TRAJECTORIES

Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c 31 N70-41631

## REENTRY VEHICLES

Reentry vehicle leading edge Patent  
[NASA-CASE-XLA-00165] c 31 N70-33242  
Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986  
Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699  
Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991  
Ring wing tension vehicle Patent  
[NASA-CASE-XLA-04901] c 31 N71-24315  
Ferry system  
[NASA-CASE-LAR-10574-1] c 11 N73-13257  
Vortex breach high pressure gas generator  
[NASA-CASE-LAR-10549-1] c 31 N73-13898  
Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c 27 N76-23426  
Earth-to-orbit vehicle providing a reusable orbital stage and method of utilizing same  
[NASA-CASE-LAR-13486-1] c 16 N87-29582

## REFERENCE SYSTEMS

Automatic frequency control loop including synchronous switching circuits  
[NASA-CASE-KSC-10393] c 09 N72-21247  
Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056

## REFINING

Helium refining by superfluidity Patent  
[NASA-CASE-XNP-00733] c 06 N70-34946

## REFLECTANCE

Optical characteristics measuring apparatus Patent  
[NASA-CASE-XNP-08840] c 23 N71-16365  
Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587  
Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868  
Portable reflectance spectrometer  
[NASA-CASE-NPO-13558-1] c 35 N84-33766  
Diffusely reflecting paints including polytetrafluoroethylene and method of manufacture  
[NASA-CASE-GSC-12883-1] c 27 N85-29044  
Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732

## REFLECTED WAVES

Device and method for determining X ray reflection efficiency of optical surfaces  
[NASA-CASE-MFS-20242] c 23 N73-12662  
Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c 36 N75-15028  
Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c 36 N76-31512

## REFLECTING TELESCOPES

Anastigmatic three-mirror telescope  
[NASA-CASE-MFS-23675-1] c 89 N79-10969  
Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732

## REFLECTION

Synthesis of zinc titanate pigment and coatings containing the same  
[NASA-CASE-MFS-13532] c 18 N72-17532  
Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c 74 N76-20958  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629

## REFLECTOMETERS

Ellipsoidal mirror reflectometer including means for averaging the radiation reflected from the sample Patent  
[NASA-CASE-XGS-05291] c 23 N71-16341  
Real time reflectometer --- measurement of specular reflectance  
[NASA-CASE-MFS-23118-1] c 35 N77-31465  
Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443  
Visible and infrared polarization ratio spectrophotometer  
[NASA-CASE-LAR-12285-1] c 35 N80-28687

## REFLECTOR ANTENNAS

Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355

## REFLECTORS

Reflector space satellite Patent  
[NASA-CASE-XLA-00138] c 31 N70-37981  
Self-erecting reflector Patent  
[NASA-CASE-XGS-09190] c 31 N71-16102  
Spectroscope equipment using a slender cylindrical reflector as a substitute for a slit Patent  
[NASA-CASE-XGS-08269] c 23 N71-26206  
Conical reflector antenna  
[NASA-CASE-NPO-10303] c 07 N72-22127  
Target acquisition antenna  
[NASA-CASE-GSC-10064-1] c 10 N72-22235  
Multi-purpose antenna employing dish reflector with plural coaxial horn feeds  
[NASA-CASE-NPO-11264] c 07 N72-25174  
Multiple reflection conical microwave antenna  
[NASA-CASE-NPO-11661] c 07 N73-14130  
Non-tracking solar energy collector system  
[NASA-CASE-NPO-13813-1] c 44 N78-31526  
Solar cell having improved back surface reflector  
[NASA-CASE-LEW-13620-1] c 44 N83-13579  
Acoustic suspension system  
[NASA-CASE-NPO-15435-1] c 71 N83-36846  
Optical system with reflective baffles  
[NASA-CASE-ARC-11502-1] c 74 N86-20125  
Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276  
Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138  
Welding torch with arc light reflector  
[NASA-CASE-MFS-29134-1] c 74 N87-17493



- Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843
- REFRACTIVITY**  
The 2 deg/90 deg laboratory scattering photometer ---  
particulate refractivity in hydrosols  
[NASA-CASE-GSC-12088-1] c 74 N78-13874  
Chromatically corrected virtual image visual display ---  
reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185  
Dual laser optical system and method for studying fluid  
flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680  
Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874  
Dynamic range compression/expansion of light beams  
by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077
- REFRACTORY COATINGS**  
Refractory coatings and method of producing the  
same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415  
Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371  
Method for repair of thin glass coatings --- on space  
shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520  
Thermal barrier coating system  
[NASA-CASE-LEW-13324-2] c 24 N85-21266
- REFRACTORY MATERIALS**  
High temperature testing apparatus Patent  
[NASA-CASE-XLE-00335] c 14 N70-35368  
Prestressed refractory structure Patent  
[NASA-CASE-XNP-02888] c 18 N71-21068  
Method of manufacturing semiconductor devices using  
refractory dielectrics  
[NASA-CASE-XER-08476-1] c 26 N72-17820  
High temperature furnace for melting materials in  
space  
[NASA-CASE-MFS-20710] c 11 N72-23215  
High temperature resistant cermet and ceramic  
compositions --- for thermal resistant insulators and  
refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302  
High temperature resistant cermet and ceramic  
compositions  
[NASA-CASE-NPO-13690-2] c 27 N79-14213  
Fibrous refractory composite insulation --- shielding  
reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062  
Catalytic trimerization of aromatic nitriles and  
triaryl-s-triazine ring cross-linked high temperature  
resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307  
Improved refractory coatings --- sputtered coatings on  
substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209  
Adjustable high emittance gap filler --- reentry shielding  
for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339  
Attachment system for silica tiles --- thermal protection  
for space shuttle orbiter  
[NASA-CASE-MSC-18741-1] c 27 N82-29456  
Densification of porous refractory substrates --- space  
shuttle orbiter tiles  
[NASA-CASE-MSC-18737-1] c 24 N83-13171  
Method of repairing surface damage to porous refractory  
substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18736-1] c 24 N83-13172  
High temperature silicon carbide impregnated insulating  
fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908  
Apparatus for accurately preloading auger attachment  
means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482  
High temperature resistant polyimide from tetra ester,  
diamine, diester and N-arylnadimide  
[NASA-CASE-LEW-13864-1] c 27 N86-19457  
Lightweight ceramic insulation and method  
[NASA-CASE-MSC-20782-1] c 27 N89-13620
- REFRACTORY METALS**  
Radiant heater having formed filaments Patent  
[NASA-CASE-XLE-00387] c 33 N70-34812  
Method of producing refractory bodies having controlled  
porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468  
Multilayer porous ionizer Patent  
[NASA-CASE-XNP-04338] c 17 N71-23046  
Brazing alloy Patent  
[NASA-CASE-XNP-03063] c 17 N71-23365  
Thermal radiation shielding Patent  
[NASA-CASE-XLE-03432] c 33 N71-24145  
Method of producing refractory composites containing  
tantalum carbide, hafnium carbide, and hafnium boride  
Patent  
[NASA-CASE-XLE-03940] c 18 N71-26153
- Silicide coatings for refractory metals Patent  
[NASA-CASE-XLE-10910] c 18 N71-29040  
Refractory metal base alloy composites  
[NASA-CASE-XLE-03940-2] c 17 N72-28536  
Fused silicide coatings containing discrete particles for  
protecting niobium alloys --- used in space shuttle thermal  
protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c 27 N76-16229  
Method of making an apertured casting --- using  
duplicate mold  
[NASA-CASE-LEW-11169-1] c 37 N76-23570  
Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748
- REFRIGERATING**  
Helium refrigerator and method for decontaminating the  
refrigerator  
[NASA-CASE-NPO-10634] c 23 N72-25619  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-3] c 34 N83-29625
- REFRIGERATING MACHINERY**  
Refrigeration apparatus  
[NASA-CASE-NPO-10309] c 15 N69-23190  
Refrigeration apparatus Patent  
[NASA-CASE-XNP-08877] c 15 N71-23025  
Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725  
Stirling cycle engine and refrigeration systems  
[NASA-CASE-NPO-13613-1] c 37 N76-29590  
Cycling Joule Thomson refrigerator  
[NASA-CASE-NPO-15251-1] c 31 N83-31897  
Vibration isolation and pressure compensation  
apparatus for sensitive instrumentation  
[NASA-CASE-LAR-12728-1] c 35 N83-32026  
Magnetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404  
Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223
- REFRIGERATORS**  
Intermittent type silica gel adsorption refrigerator  
Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906  
Helium refrigerator  
[NASA-CASE-NPO-13435-1] c 31 N76-14284  
Thermal compensator for closed-cycle helium  
refrigerator --- assuring constant temperature for an  
infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029  
Reciprocating magnetic refrigerator employing tandem  
porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082  
Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159  
Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-23917  
Cryogenic regenerator including saran-carbon heat  
conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946  
Self-actuating heat switches for redundant refrigeration  
systems  
[NASA-CASE-NPO-17085-1-CU] c 31 N89-12785  
Joule Thomson refrigerator  
[NASA-CASE-NPO-17143-1-CU] c 31 N89-14351
- REFUELING**  
Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786
- REGENERATION (ENGINEERING)**  
Switching circuit employing regeneratively connected  
complementary transistors Patent  
[NASA-CASE-XNP-02654] c 10 N70-42032  
Regenerative braking system Patent  
[NASA-CASE-XMF-01096] c 10 N71-16030  
Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790  
Cryogenic regenerator including saran-carbon heat  
conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946
- REGENERATION (PHYSIOLOGY)**  
Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-29863
- REGENERATIVE COOLING**  
Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411  
Method of making a regeneratively cooled combustion  
chamber Patent  
[NASA-CASE-XLE-00150] c 28 N70-41818  
Small rocket engine Patent  
[NASA-CASE-XLE-00685] c 28 N70-41992  
Combustion chamber Patent  
[NASA-CASE-XLE-04857] c 28 N71-23968  
Method of making apparatus for sensing temperature  
[NASA-CASE-XLE-05230-2] c 14 N73-13417
- REGENERATIVE FUEL CELLS**  
Electrolytically regenerative hydrogen-oxygen fuel cell  
Patent  
[NASA-CASE-XLE-04526] c 03 N71-11052
- REGENERATORS**  
Code regenerative clean-up loop transponder for a  
mu-type ranging system  
[NASA-CASE-NPO-11707] c 07 N73-25161  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-3] c 34 N83-29625
- REGISTERS (COMPUTERS)**  
Variable digital processor including a register for shifting  
and rotating bits in either direction Patent  
[NASA-CASE-GSC-10186] c 08 N71-33110  
Priority interrupt system --- comprised of four registers  
[NASA-CASE-NPO-13067-1] c 60 N76-18800
- REINFORCED PLASTICS**  
Tube fabricating process  
[NASA-CASE-LAR-10203-1] c 15 N72-16330  
Reinforced structural plastics  
[NASA-CASE-LEW-10199-1] c 27 N74-23125
- REINFORCEMENT (STRUCTURES)**  
Reinforcing means for diaphragms Patent  
[NASA-CASE-XNP-01962] c 32 N70-41370
- REINFORCEMENT RINGS**  
Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977
- REINFORCING FIBERS**  
Reinforced metallic composites Patent  
[NASA-CASE-XLE-02428] c 17 N70-33288  
Method of making fiber reinforced metallic composites  
Patent  
[NASA-CASE-XLE-00231] c 17 N70-38198  
Method for producing fiber reinforced metallic  
composites Patent  
[NASA-CASE-XLE-03925] c 18 N71-22894  
Thermal protection ablation spray system Patent  
[NASA-CASE-XLA-04251] c 18 N71-26100  
Method of preparing graphite reinforced aluminum  
composite  
[NASA-CASE-MFS-21077-1] c 24 N75-28135  
Crystalline polyimides --- reinforcing fibers for high  
temperature composites and adhesives as well as flame  
retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158  
Composition and method for making polyimide  
resin-reinforced fabric  
[NASA-CASE-LEW-12933-1] c 27 N81-19296  
High modulus rare earth and beryllium containing silicate  
glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455  
Method of carbonizing polyacrylonitrile fibers  
[NASA-CASE-ARC-11261-1] c 24 N83-25789  
Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213  
Lightweight piston  
[NASA-CASE-LAR-13150-1] c 24 N87-27742
- RELAXATION OSCILLATORS**  
Voltage to frequency converter Patent  
[NASA-CASE-GSC-10022-1] c 10 N71-25882
- RELAY SATELLITES**  
Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621  
Satellite personal communications system  
[NASA-CASE-NPO-14480-1] c 32 N80-20448
- RELEASING**  
Despin weight release Patent  
[NASA-CASE-XLA-00679] c 15 N70-38601  
Quick attach and release fluid coupling assembly  
Patent  
[NASA-CASE-XKS-01985] c 15 N71-10782  
Redundant actuating mechanism Patent  
[NASA-CASE-XGS-08718] c 15 N71-24600  
Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975  
Delayed simultaneous release mechanism  
[NASA-CASE-GSC-10814-1] c 03 N73-20039  
Slide release mechanism --- for space shuttle  
orbiter/external tank connection device  
[NASA-CASE-MSC-20080-1] c 37 N85-30334  
Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983  
Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582
- RELIABILITY ANALYSIS**  
Program for computer aided reliability estimation  
[NASA-CASE-NPO-13086-1] c 15 N73-12495
- RELIABILITY ENGINEERING**  
Method of improving the reliability of a rolling element  
system Patent  
[NASA-CASE-XLE-02999] c 15 N71-16052  
Inspection gage for boss Patent  
[NASA-CASE-XMF-04966] c 14 N71-17658  
Valving device for automatic refilling in cryogenic liquid  
systems  
[NASA-CASE-NPO-11177] c 15 N72-17453  
Electrical connector  
[NASA-CASE-NPO-10694] c 09 N72-20200  
Inherent redundancy electric heater  
[NASA-CASE-MFS-21462-1] c 33 N74-14935

- Hollow rolling element bearings  
[NASA-CASE-LEW-11087-3] c 37 N74-21064
- Reconfiguring redundancy management  
[NASA-CASE-MSC-18498-1] c 60 N82-29013
- Phase sensitive guidance sensor for wire-following vehicles  
[NASA-CASE-NPO-15341-1] c 35 N84-33769
- Lightweight piston  
[NASA-CASE-LAR-13150-1] c 24 N87-27742
- RELIEF MAPS**  
Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711
- RELIEF VALVES**  
Relief valve  
[NASA-CASE-XMS-05894-1] c 15 N69-21924
- Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968
- Redundant hydraulic control system for actuators  
[NASA-CASE-MFS-20944] c 15 N73-13466
- Prosthetic urinary sphincter  
[NASA-CASE-MFS-23717-1] c 52 N81-25660
- Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785
- REMOTE CONTROL**  
Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461
- Tubular coupling having frangible connecting means  
[NASA-CASE-XLA-02854] c 15 N69-27490
- Bimetallic power controlled actuator  
[NASA-CASE-XNP-09776] c 09 N69-39929
- Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492
- Umbilical disconnect Patent  
[NASA-CASE-XLA-00711] c 03 N71-12258
- Remote controlled tubular disconnect Patent  
[NASA-CASE-XLA-01396] c 03 N71-12259
- Three-axis finger tip controller for switches Patent  
[NASA-CASE-XAC-02405] c 09 N71-16089
- Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900
- Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125
- Solid state remote circuit selector switch  
[NASA-CASE-LEW-10387] c 09 N72-22201
- Laser communication system for controlling several functions at a location remote to the laser  
[NASA-CASE-LAR-10311-1] c 16 N73-16536
- Cooperative multiaxis sensor for teleoperation of article manipulating apparatus  
[NASA-CASE-NPO-13386-1] c 54 N75-27758
- Remotely operable articulated manipulator  
[NASA-CASE-MFS-22707-1] c 37 N76-15457
- Remote manipulator system  
[NASA-CASE-MFS-22022-1] c 37 N76-15460
- Remote lightning monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315
- Simulator method and apparatus for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MFS-23052-2] c 74 N79-13855
- Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519
- Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117
- Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264
- Remotely controllable mixing system  
[NASA-CASE-MFS-28153-1] c 31 N86-32589
- Remotely operable peristaltic pump  
[NASA-CASE-MFS-28059-1] c 37 N86-32738
- Radial and torsionally controlled magnetic bearing  
[NASA-CASE-GSC-12957-1] c 37 N87-17038
- Apparatus and method of capturing an orbiting spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985
- Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689
- Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842
- Magnetic attachment mechanism  
[NASA-CASE-MSC-21095-1] c 37 N89-12866
- Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078
- REMOTE HANDLING**  
Remote control manipulator for zero gravity environment  
[NASA-CASE-MFS-14405] c 15 N72-28495
- Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
[NASA-CASE-LAR-10634-1] c 37 N74-18123

- Anthropomorphic master/slave manipulator system  
[NASA-CASE-ARC-10756-1] c 54 N77-32721
- Controller arm for a remotely related slave arm  
[NASA-CASE-ARC-11052-1] c 37 N79-28551
- Apparatus for sequentially transporting containers  
[NASA-CASE-MFS-23846-1] c 37 N82-32731
- Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286
- Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828
- Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MSC-20985-1] c 18 N88-26398
- REMOTE MANIPULATOR SYSTEM**  
Coupling device for moving vehicles  
[NASA-CASE-GSC-12322-1] c 37 N80-14398
- Apparatus and method of capturing an orbiting spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985
- Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118
- REMOTE SENSING**  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846
- Thermal remote anemometer system  
[NASA-CASE-LAR-13508-1] c 35 N88-23962
- Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764
- REMOTE SENSORS**  
Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMF-14032] c 20 N71-16340
- Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent  
[NASA-CASE-XLE-00787] c 14 N71-21090
- Flow angle sensor and read out system Patent  
[NASA-CASE-XLE-04503] c 14 N71-24864
- Time synchronization system utilizing moon reflected coded signals Patent  
[NASA-CASE-NPO-10143] c 10 N71-26326
- Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437
- Intruder detection system  
[NASA-CASE-ARC-10097-2] c 07 N73-25160
- Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-MFS-21470-1] c 44 N74-19870
- Voltage monitoring system  
[NASA-CASE-KSC-10736-1] c 33 N75-19521
- Wind sensor  
[NASA-CASE-NPO-13462-1] c 35 N76-24524
- Focused laser Doppler velocimeter  
[NASA-CASE-MFS-23178-1] c 35 N77-10493
- Wind measurement system  
[NASA-CASE-MFS-23362-1] c 47 N77-10753
- Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367
- Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c 43 N78-10529
- Remote water monitoring system  
[NASA-CASE-LAR-11973-1] c 35 N78-27384
- Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498
- Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639
- REMOTELY PILOTED VEHICLES**  
Rotating launch device for a remotely piloted aircraft  
[NASA-CASE-ARC-10979-1] c 09 N77-19076
- REMOVAL**  
Catalyst bed removing tool Patent  
[NASA-CASE-XFR-00811] c 15 N70-36901
- Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119
- Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781
- REPEATERS**  
Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
[NASA-CASE-GSC-10373-1] c 07 N71-19773
- REPLACING**  
Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent  
[NASA-CASE-NPO-10625] c 09 N71-26182
- RESCUE OPERATIONS**  
Backpack carrier Patent  
[NASA-CASE-LAR-10056] c 05 N71-12351

- Rescue litter flotation assembly Patent  
[NASA-CASE-XMS-04170] c 05 N71-22748
- Method of locating persons in distress --- by using radar imagery from radar reflectors  
[NASA-CASE-LAR-11390-1] c 32 N77-21267
- Apparatus and method of capturing an orbiting spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985
- RESEARCH AIRCRAFT**  
Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295
- RESEARCH AND DEVELOPMENT**  
Tube fabricating process  
[NASA-CASE-LAR-10203-1] c 15 N72-16330
- RESEARCH VEHICLES**  
Lunar landing flight research vehicle Patent  
[NASA-CASE-XFR-00929] c 31 N70-34966
- Velocity limiting safety system Patent  
[NASA-CASE-XLA-07473] c 15 N71-24895
- RESIDUAL STRESS**  
Miniature stress transducer Patent  
[NASA-CASE-XNP-02983] c 14 N71-21091
- Method of making a perspiration resistant biopotential electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120
- RESILIENCE**  
Resilience testing device Patent  
[NASA-CASE-XLA-08254] c 14 N71-26161
- RESIN BONDING**  
Method and apparatus for bonding a plastics sleeve onto a metallic body Patent  
[NASA-CASE-XLA-01262] c 15 N71-21404
- Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c 44 N76-14600
- Method of manufacture of bonded fiber flywheel --- fiberglass-epoxy  
[NASA-CASE-MFS-23674-1] c 24 N81-29163
- RESIN MATRIX COMPOSITES**  
Phosphorus-containing bisimide resins  
[NASA-CASE-ARC-11321-1] c 27 N81-27272
- Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900
- Method of tracing contour patterns for use in making gradual contour resin matrix composites  
[NASA-CASE-ARC-11246-1] c 31 N83-34073
- Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560
- High performance mixed bisimide resins and composites based thereon  
[NASA-CASE-ARC-11538-1SB] c 24 N86-21590
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451
- Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112
- Method of controlling a resin curing process --- for fiber reinforced composites  
[NASA-CASE-MSC-21169-1] c 27 N87-25473
- Novel ladder polymers for use as high temperature stable resins or coatings  
[NASA-CASE-LEW-14203-1] c 27 N88-29984
- RESINS**  
Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739
- Bonding or repairing process  
[NASA-CASE-MSC-12357] c 15 N73-12489
- Semiconductor surface protection material  
[NASA-CASE-ERC-10339-1] c 18 N73-30532
- Composite lamination method  
[NASA-CASE-LAR-12019-1] c 24 N78-17150
- Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188
- Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6- diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564
- Fire and heat resistant laminating resin based on maleimido and citraconimido substituted 1-(diorganooxyphosphonyl-methyl)-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-2] c 27 N89-16042
- RESISTANCE**  
Method of making a perspiration resistant biopotential electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120
- Variable resistance constant tension and lubrication device --- using oil-saturated leather wiper  
[NASA-CASE-KSC-10723-1] c 37 N75-13265

Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933

**RESISTANCE HEATING**  
Electrothermal rockets having improved heat exchangers Patent  
[NASA-CASE-XLE-01783] c 28 N70-34175  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA 1.71:NPO-15494-2] c 35 N85-34373

**RESISTORS**  
High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c 33 N74-22814  
Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c 33 N76-27473  
Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670

**RESOLUTION**  
Analog-to-digital conversion system Patent  
[NASA-CASE-XAC-00404] c 08 N70-40125  
Spectroscope equipment using a slender cylindrical reflector as a substitute for a slit Patent  
[NASA-CASE-XGS-08269] c 23 N71-26206  
Resolution enhanced sound detecting apparatus  
[NASA-CASE-NPO-14134-1] c 71 N79-23753  
Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N88-23924

**RESOLVERS**  
Differential phase shift keyed signal resolver  
[NASA-CASE-MS-C-14066-1] c 33 N74-27705  
Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355  
Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132  
Angular measurement system  
[NASA-CASE-MFS-25825-1] c 31 N86-29055

**RESONANCE**  
Optically selective, acoustically resonant gas detecting transducer  
[NASA-CASE-ARC-10639-1] c 35 N78-13400  
Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350  
Arrangement for damping the resonance in a laser diode  
[NASA-CASE-NPO-15980-1] c 36 N85-30305  
Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234

**RESONANT FREQUENCIES**  
Vibrating element electrometer with output signal magnified over input signal by a function of the mechanical Q of the vibrating element Patent  
[NASA-CASE-XAC-02807] c 09 N71-23021  
Apparatus for detecting the amount of material in a resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397  
Parasitic suppressing circuit  
[NASA-CASE-ERC-10403-1] c 10 N73-26228  
CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512  
Microbalance --- for measuring particle mass  
[NASA-CASE-MS-C-11242] c 35 N78-17358  
Method and apparatus for shaping and enhancing acoustical levitation forces  
[NASA-CASE-MFS-25050-1] c 71 N81-15767  
Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781  
Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887  
Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933  
Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752  
Single mode levitation and translation  
[NASA-CASE-NPO-16675-1-CU] c 71 N88-24241

**RESONANT VIBRATION**  
Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

**RESONATORS**  
High-Q bandpass resonators utilizing bandstop resonator pairs  
[NASA-CASE-GSC-10990-1] c 09 N73-26195  
Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1-CU] c 33 N88-26596

**RESPIRATION**  
Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202

**RESPIRATORS**  
Respiration monitor  
[NASA-CASE-FRC-10012] c 14 N72-17329

**RESPIRATORY RATE**  
Gas low pressure low flow rate metering system Patent  
[NASA-CASE-FRC-10022] c 12 N71-26546

Respiratory analysis system and method  
[NASA-CASE-MS-C-13436-1] c 05 N73-32015  
Metabolic analyzer --- for measuring metabolic rate and breathing dynamics of human beings  
[NASA-CASE-MFS-21415-1] c 52 N74-20728

**RESPIROMETERS**  
Metabolic analyzer --- for measuring metabolic rate and breathing dynamics of human beings  
[NASA-CASE-MFS-21415-1] c 52 N74-20728

**RESPONSES**  
Frequency division multiplex technique  
[NASA-CASE-KSC-10521] c 07 N73-20176

**RESTARTABLE ROCKET ENGINES**  
Zero gravity starting means for liquid propellant motors Patent  
[NASA-CASE-XNP-01390] c 28 N70-41275  
Small rocket engine Patent  
[NASA-CASE-XLE-00685] c 28 N70-41992

**RESUSCITATION**  
Resuscitation apparatus Patent  
[NASA-CASE-XMS-01115] c 05 N70-39922

**RETAINING**  
Floating nut retention system  
[NASA-CASE-MS-C-16938-1] c 37 N80-23653  
Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091

**RETARDERS (DEVICES)**  
Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293

**RETARDING**  
Ablative resin Patent  
[NASA-CASE-XLE-05913] c 33 N71-14032

**RETICLES**  
Optical tracker having overlapping reticles on parallel axes Patent  
[NASA-CASE-XGS-05715] c 23 N71-16100  
Star tracking reticles and process for the production thereof  
[NASA-CASE-GSC-11188-2] c 21 N73-19630  
Star tracking reticles  
[NASA-CASE-GSC-11188-1] c 14 N73-32320  
Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c 74 N74-20008  
Star scanner --- with a reticle with a pair of slits having differing separation  
[NASA-CASE-GSC-11569-1] c 89 N74-30886

**RETINAL IMAGES**  
Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

**RETRACTABLE EQUIPMENT**  
Runway light Patent  
[NASA-CASE-XLA-00119] c 11 N70-33329  
Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701  
Retractable environmental seal  
[NASA-CASE-MFS-23646-1] c 37 N79-22474  
Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183  
CAM controlled retractable door latch  
[NASA-CASE-MS-C-20304-1] c 37 N82-31690  
Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303

**RETROFIRING**  
Visual target for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c 31 N69-27499  
Discrete local altitude sensing device Patent  
[NASA-CASE-XMS-03792] c 14 N70-41812

**RETROREFLECTION**  
Interferometer servo system Patent  
[NASA-CASE-NPO-10300] c 14 N71-17662  
Over-under double-pass interferometer  
[NASA-CASE-NPO-13999-1] c 35 N78-18395  
Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510  
Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764

**RETROREFLECTORS**  
Interferometer --- high resolution  
[NASA-CASE-NPO-14448-1] c 74 N81-29963  
Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304

**RETROCKET ENGINES**  
Steerable solid propellant rocket motor Patent  
[NASA-CASE-XNP-00234] c 28 N70-38645

**REUSABLE HEAT SHIELDING**  
High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448

**REUSABLE ROCKET ENGINES**  
Earth-to-orbit vehicle providing a reusable orbital stage and method of utilizing same  
[NASA-CASE-LAR-13486-1] c 16 N87-29582

**REUSABLE SPACECRAFT**  
Recoverable single stage spacecraft booster Patent  
[NASA-CASE-XMF-01973] c 31 N70-41588  
Space shuttle vehicle and system  
[NASA-CASE-MS-C-12433] c 31 N73-14854  
Aerospace vehicle  
[NASA-CASE-LAR-13155-1] c 05 N86-19310

**REUSE**  
Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c 27 N76-22376  
Reusable captive blind fastener  
[NASA-CASE-MS-C-18742-1] c 37 N82-26673  
Cryogenic insulation system  
[NASA-CASE-LAR-13506-1] c 27 N89-12741

**REVERSE OSMOSIS**  
Reverse osmosis membrane of high urea rejection properties --- water purification  
[NASA-CASE-ARC-10980-1] c 27 N80-23452  
Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361

**REVERSED FLOW**  
Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00170] c 15 N70-36412  
Reversible current control apparatus Patent  
[NASA-CASE-XLA-09371] c 10 N71-18724  
Positive locking check valve Patent  
[NASA-CASE-XMS-09310] c 15 N71-22706  
Reverse pitch fan with divided splitter  
[NASA-CASE-LEW-12760-1] c 07 N77-17059

**REYNOLDS NUMBER**  
Wind tunnel test section  
[NASA-CASE-MFS-20509] c 11 N72-17183

**REYNOLDS STRESS**  
System for measuring Reynolds in a turbulently flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c 34 N76-27517

**RHENIUM**  
Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c 35 N77-32454

**RHEOMETERS**  
Viscosity measuring instrument  
[NASA-CASE-NPO-14501-1] c 35 N80-18357

**RHOMBOIDS**  
Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13978

**RIBBONS**  
Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411  
Forming tool for ribbon or wire  
[NASA-CASE-XLA-05966] c 15 N72-12408  
Twisted multifilament superconductor  
[NASA-CASE-LEW-11726-1] c 26 N73-26752  
Method of controlling defect orientation in silicon crystal ribbon growth  
[NASA-CASE-NPO-13918-1] c 76 N79-11920  
Solar array strip and a method for forming the same  
[NASA-CASE-NPO-13652-1] c 44 N79-17314  
Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798  
Bonding machine for forming a solar array strip  
[NASA-CASE-NPO-13652-2] c 44 N79-24431  
Method for forming a solar array strip  
[NASA-CASE-NPO-13652-3] c 44 N80-14474  
Means for growing ribbon crystals without subjecting the crystals to thermal shock-induced strains  
[NASA-CASE-NPO-14298-1] c 76 N80-32244  
Method of growing a ribbon crystal particularly suited for facilitating automated control of ribbon width  
[NASA-CASE-NPO-14295-1] c 76 N80-32245  
Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389  
Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888  
Ribbon growing method and apparatus  
[NASA-CASE-NPO-16306-1-CU] c 76 N85-30934

**RIBLETS**  
Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071

**RIBOFLAVIN**  
Flavin coenzyme assay  
[NASA-CASE-GSC-10565-1] c 06 N72-25149

**RIBS (SUPPORTS)**  
Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981

## RICE

- Modification of the physical properties of freeze-dried rice  
[NASA-CASE-MSC-13540-1] c 05 N72-33096
- RIDING QUALITY**  
Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445
- RIGID ROTORS**  
Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029
- RIGID STRUCTURES**  
Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975  
Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155  
Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040  
Telescoping columns --- parabolic antenna support  
[NASA-CASE-LAR-12195-1] c 31 N81-27324  
Clevis joint for deployable space structures  
[NASA-CASE-LAR-13898-1] c 37 N88-30130
- RIGID WINGS**  
Flexible wing deployment device Patent  
[NASA-CASE-XLA-01220] c 02 N70-41000
- RIMS**  
Rim inertial measuring system  
[NASA-CASE-LAR-12052-1] c 18 N81-29152
- RING CURRENTS**  
Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463
- RING STRUCTURES**  
Reversible ring counter employing cascaded single SCR stages Patent  
[NASA-CASE-XGS-01473] c 09 N71-10673  
Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c 15 N71-22877  
Phase-locked servo system --- for synchronizing the rotation of slip ring assembly  
[NASA-CASE-MFS-22073-1] c 33 N75-13139  
Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c 36 N75-19653  
Helmet latching and attaching ring  
[NASA-CASE-XMS-04670] c 54 N78-17678  
Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539  
Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091  
Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618  
Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416
- RING WINGS**  
Ring wing tension vehicle Patent  
[NASA-CASE-XLA-04901] c 31 N71-24315
- RIPPLES**  
Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225
- RIVETS**  
Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960
- ROBOTICS**  
Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789  
Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689  
A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864  
Gripping device  
[NASA-CASE-MSC-21365-1] c 37 N89-12865  
Optically controlled welding system  
[NASA-CASE-MFS-29291-1] c 37 N89-12868  
Passively activated prehensile digit for a robotic end effector  
[NASA-CASE-NPO-16766-1-CU] c 37 N89-13785
- ROBOTS**  
Optically controlled welding system  
[NASA-CASE-MFS-29291-1] c 37 N89-12868
- ROCKET ENGINE CASES**  
Method of making a rocket motor casing Patent  
[NASA-CASE-XLE-00409] c 28 N71-15658  
Rocket motor casing Patent  
[NASA-CASE-XLE-05689] c 28 N71-15659  
Payload/burned-out motor case separation system Patent  
[NASA-CASE-XLA-05369] c 31 N71-15687  
Solid propellant liner Patent  
[NASA-CASE-XNP-09744] c 27 N71-16392  
Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293  
Casting propellant in rocket engine  
[NASA-CASE-LAR-11995-1] c 28 N77-10213

- Solid propellant rocket motor and method of making same  
[NASA-CASE-XLA-01349] c 20 N77-17143
- ROCKET ENGINE CONTROL**  
Fluid thrust control system --- for liquid propellant rocket engines  
[NASA-CASE-XMF-05964-1] c 20 N79-21124
- ROCKET ENGINE DESIGN**  
Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c 28 N70-33284  
Spherical solid-propellant rocket motor Patent  
[NASA-CASE-XLA-00105] c 28 N70-33331  
Spherically-shaped rocket motor Patent  
[NASA-CASE-XHQ-01897] c 28 N70-35381  
Rocket engine Patent  
[NASA-CASE-XLE-00342] c 28 N70-37980  
Swirling flow nozzle Patent  
[NASA-CASE-XNP-03692] c 28 N71-24321  
Ion thruster with a combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c 28 N73-24783  
Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502  
Rocket chamber and method of making  
[NASA-CASE-LEW-11118-2] c 20 N76-14191  
System for imposing directional stability on a rocket-propelled vehicle  
[NASA-CASE-MFS-21311-1] c 20 N76-21275  
Dual-fuel, dual-mode rocket engine  
[NASA-CASE-LAR-13773-1] c 20 N88-24685
- ROCKET ENGINES**  
Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860  
Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422  
Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535  
Elastic universal joint Patent  
[NASA-CASE-XNP-00416] c 15 N70-36947  
Passively regulated water electrolysis rocket engine Patent  
[NASA-CASE-XGS-08729] c 28 N71-14044  
Method of igniting solid propellants Patent  
[NASA-CASE-XLE-01988] c 27 N71-15634  
Laminar flow enhancement Patent  
[NASA-CASE-NPO-10122] c 12 N71-17631  
Swirling flow nozzle Patent  
[NASA-CASE-NPO-03692] c 28 N71-24321  
Thruster maintenance system Patent  
[NASA-CASE-MFS-20325] c 28 N71-27095  
Purge device for thrust engines Patent  
[NASA-CASE-XMS-04826] c 28 N71-28849  
Method and device for cooling Patent  
[NASA-CASE-HQN-00938] c 33 N71-29053  
Ion thruster magnetic field control  
[NASA-CASE-LEW-10835-1] c 28 N72-22771  
Altitude simulation chamber for rocket engine testing  
[NASA-CASE-MFS-20620] c 11 N72-27262  
Method of making apparatus for sensing temperature  
[NASA-CASE-XLE-05230-2] c 14 N73-13417  
Magneto-plasma-dynamic arc thruster  
[NASA-CASE-LEW-11180-1] c 25 N73-25760  
Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c 20 N74-32919  
Device for installing rocket engines  
[NASA-CASE-MFS-19220-1] c 20 N76-22296  
Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c 20 N77-10148  
Anode for ion thruster  
[NASA-CASE-LEW-12048-1] c 20 N77-20162  
General purpose rocket furnace  
[NASA-CASE-MFS-23460-1] c 12 N79-26075  
Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749  
Ring-cusp ion thruster with shell anode  
[NASA-CASE-LEW-13881-1] c 20 N85-21256  
Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420  
Emergency egress fixed rocket package  
[NASA-CASE-MSC-21332-1] c 03 N89-11724
- ROCKET EXHAUST**  
Thrust vector control apparatus Patent  
[NASA-CASE-XLE-00208] c 28 N70-34294  
Rocket thrust throttling system  
[NASA-CASE-LEW-10374-1] c 28 N73-13773  
Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588
- ROCKET FIRING**  
Alleviation of divergence during rocket launch Patent  
[NASA-CASE-XLA-00256] c 31 N71-15663

## ROCKET FLIGHT

- Technique for control of free-flight rocket vehicles Patent  
[NASA-CASE-XLA-00937] c 31 N71-17691
- ROCKET LAUNCHING**  
Alleviation of divergence during rocket launch Patent  
[NASA-CASE-XLA-00256] c 31 N71-15663  
Controlled release device Patent  
[NASA-CASE-XKS-03338] c 15 N71-24043
- ROCKET LININGS**  
Heat exchanger and method of making --- rocket lining  
[NASA-CASE-LEW-12441-2] c 34 N80-24573
- ROCKET NOZZLES**  
Gimballed, partially submerged rocket nozzle Patent  
[NASA-CASE-XMF-01544] c 28 N70-34162  
Rocket thrust chamber Patent  
[NASA-CASE-XLE-00145] c 28 N70-36806  
Self-sealing, unbonded, rocket motor nozzle closure Patent  
[NASA-CASE-XLA-02651] c 28 N70-41967  
Automatically deploying nozzle exit cone extension Patent  
[NASA-CASE-XLE-01640] c 31 N71-15637  
Rocket nozzle test method Patent  
[NASA-CASE-NPO-10311] c 31 N71-15643  
Collapsible nozzle extension for rocket engines Patent  
[NASA-CASE-MFS-11497] c 28 N71-16224  
Apparatus and method for protecting a photographic device Patent  
[NASA-CASE-NPO-10174] c 14 N71-18465  
Multislot film cooled pyrolytic graphite rocket nozzle Patent  
[NASA-CASE-XNP-04389] c 28 N71-20942  
Prestressed refractory structure Patent  
[NASA-CASE-XNP-02888] c 18 N71-21068  
Swirling flow nozzle Patent  
[NASA-CASE-XNP-03692] c 28 N71-24321  
Method and device for cooling Patent  
[NASA-CASE-HQN-00938] c 33 N71-29053  
Inflatable transpiration cooled nozzle  
[NASA-CASE-MFS-20619] c 28 N72-11708  
Solid propellant rocket motor nozzle  
[NASA-CASE-NPO-11458] c 28 N72-23810  
Method of making a rocket nozzle  
[NASA-CASE-XMF-06884-1] c 20 N79-21123  
Retractable environmental seal  
[NASA-CASE-MFS-23646-1] c 37 N79-22474  
Nozzle fabrication technique  
[NASA-CASE-MSC-21299-1] c 20 N88-24684
- ROCKET OXIDIZERS**  
Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c 28 N74-33209
- ROCKET PROPELLANTS**  
Two-step rocket engine bipropellant valve Patent  
[NASA-CASE-XMS-04890-1] c 15 N70-22192  
Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736  
Bipropellant injector  
[NASA-CASE-XNP-09461] c 28 N72-23809
- ROCKET TEST FACILITIES**  
High-vacuum condenser tank for ion rocket tests Patent  
[NASA-CASE-XLE-00168] c 11 N70-33278  
Micro-pound extended range thrust stand Patent  
[NASA-CASE-GSC-10710-1] c 28 N71-27094
- ROCKET THRUST**  
Apparatus and method for control of a solid fueled rocket vehicle Patent  
[NASA-CASE-XNP-00217] c 28 N70-38181  
Electrostatic thruster with improved insulators Patent  
[NASA-CASE-XLE-01902] c 28 N71-10574  
Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c 28 N73-24784  
Thrust measurement  
[NASA-CASE-XMS-05731] c 35 N75-29382
- ROCKET VEHICLES**  
Umbilical separator for rockets Patent  
[NASA-CASE-XNP-00425] c 11 N70-38202  
Support apparatus for dynamic testing Patent  
[NASA-CASE-XMF-01772] c 11 N70-41677  
Alleviation of divergence during rocket launch Patent  
[NASA-CASE-XLA-00256] c 31 N71-15663  
Technique for control of free-flight rocket vehicles Patent  
[NASA-CASE-XLA-00937] c 31 N71-17691  
Coupling device for moving vehicles  
[NASA-CASE-GSC-12322-1] c 37 N80-14398  
High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272
- ROCKET-BORNE INSTRUMENTS**  
Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432

## ROCKETS

Hydrogen fire detection system with logic circuit to analyze the spectrum of temporal variations of the optical spectrum  
[NASA-CASE-MFS-13130] c 10 N72-17173

## ROCKS

Rock drill for recovering samples  
[NASA-CASE-XNP-07478] c 14 N69-21923  
Rock sampling --- apparatus for controlling particle size  
[NASA-CASE-XNP-10007-1] c 46 N74-23068  
Rock sampling --- method for controlling particle size distribution  
[NASA-CASE-XNP-09755] c 46 N74-23069  
Coal-rock interface detector  
[NASA-CASE-MFS-23725-1] c 43 N79-31706

## RODS

Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891  
Quasi-containerless glass formation method and apparatus  
[NASA-CASE-MFS-28090-1] c 27 N87-21111  
Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083

## ROLL

Roll alignment detector  
[NASA-CASE-GSC-10514-1] c 14 N72-20379

## ROLLER BEARINGS

Method of lubricating rolling element bearings Patent  
[NASA-CASE-XLE-09527] c 15 N71-17688  
Semi-linear ball bearing Patent  
[NASA-CASE-XLA-02809] c 15 N71-22982  
Low mass rolling element for bearings  
[NASA-CASE-LEW-11087-1] c 15 N73-30458  
Method of making rolling element bearings  
[NASA-CASE-LEW-11087-2] c 37 N74-15128  
Bearing material --- composite material with low friction surface for rolling or sliding contact  
[NASA-CASE-LEW-11930-1] c 24 N76-22309

## ROLLERS

Method of improving the reliability of a rolling element system Patent  
[NASA-CASE-XLE-02999] c 15 N71-16052  
Load regulating latch  
[NASA-CASE-MSC-19535-1] c 37 N77-32499  
Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587

## ROLLING CONTACT LOADS

Rolling element bearings Patent  
[NASA-CASE-XLE-09527-2] c 15 N71-26189

## ROLLING MOMENTS

Roll attitude star sensor system Patent  
[NASA-CASE-XNP-01307] c 21 N70-41856

## ROOM TEMPERATURE

Coating process  
[NASA-CASE-XNP-06508] c 18 N69-39895

## ROTARY GYROSCOPES

Closed loop fiber optic rotation sensor  
[NASA-CASE-NPO-16558-1-CU] c 74 N87-23259

## ROTARY STABILITY

Reactance control system Patent  
[NASA-CASE-XMF-01598] c 21 N71-15583  
Two component bearing Patent  
[NASA-CASE-XLA-00013] c 15 N71-29136  
Lubricated journal bearing  
[NASA-CASE-LEW-11076-3] c 37 N75-30562  
Cyclical bi-directional rotary actuator  
[NASA-CASE-GSC-11883-1] c 37 N77-19458  
Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136  
Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082  
Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332

## ROTARY WING AIRCRAFT

Aircraft control system  
[NASA-CASE-ERC-10439] c 02 N73-19004  
Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631  
High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

## ROTARY WINGS

Variable geometry rotor system  
[NASA-CASE-LAR-10557] c 02 N72-11018  
Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029  
Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382  
Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107  
Compensating linkage for main rotor control  
[NASA-CASE-LAR-11797-1] c 05 N81-19087

Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136  
Shapes for rotating airfoils  
[NASA-CASE-LAR-12396-1] c 02 N84-28732  
Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400

## ROTATING BODIES

Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485  
Laser apparatus for removing material from rotating objects Patent  
[NASA-CASE-MFS-11279] c 16 N71-20400  
Phase-locked servo system --- for synchronizing the rotation of slip ring assembly  
[NASA-CASE-MFS-22073-1] c 33 N75-13139  
Annular momentum control device used for stabilization of space vehicles and the like  
[NASA-CASE-LAR-11051-1] c 15 N76-14158  
Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c 37 N76-18459  
Multiple in-line docking capability for rotating space stations  
[NASA-CASE-MFS-20855-1] c 15 N77-10112  
Rotatable mass for a flywheel  
[NASA-CASE-MFS-23051-1] c 37 N79-10422  
Acoustic driving of rotor  
[NASA-CASE-NPO-14005-1] c 71 N79-20827  
Multi-channel rotating optical interface for data transmission  
[NASA-CASE-NPO-14066-1] c 74 N79-34011  
Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082  
Airborne tracking sunphotometer apparatus and system  
[NASA-CASE-ARC-11622-1] c 44 N88-14492

## ROTATING CYLINDERS

Tread drum for animals --- having an electrical shock station  
[NASA-CASE-ARC-10917-1] c 51 N78-27733  
Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
[NASA-CASE-NPO-15227-1] c 37 N81-33482  
Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037

## ROTATING DISKS

Foil seal  
[NASA-CASE-XLE-05130] c 15 N69-21362  
Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432  
Redundant disc  
[NASA-CASE-LEW-12496-1] c 07 N78-33101  
Spinning disk calibration method and apparatus for laser Doppler velocimeter  
[NASA-CASE-ARC-11510-1] c 35 N86-32697

## ROTATING ELECTRICAL MACHINES

Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479  
Direct current motor with stationary armature and field Patent  
[NASA-CASE-XGS-05290] c 09 N71-25999  
Constant frequency output two stage induction machine systems Patent  
[NASA-CASE-ERC-10065] c 09 N71-27364

## ROTATING ENVIRONMENTS

Radial module space station Patent  
[NASA-CASE-XMS-01906] c 31 N70-41373  
Rotating space station simulator Patent  
[NASA-CASE-XLA-03127] c 11 N71-10776

## ROTATING GENERATORS

Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813  
Wind wheel electric power generator  
[NASA-CASE-MFS-23515-1] c 44 N80-21828

## ROTATING MIRRORS

Retrodirective modulator Patent  
[NASA-CASE-GSC-10062] c 14 N71-15605  
Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880  
Method for generating ultra-precise angles Patent  
[NASA-CASE-XGS-04173] c 19 N71-26674  
Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c 74 N74-21304  
Multispectral glancing incidence X-ray telescope  
[NASA-CASE-MFS-28013-1] c 89 N86-22459

## ROTATING SHAFTS

Foil seal Patent  
[NASA-CASE-XLE-05130-2] c 15 N71-19570  
Anemometer with braking mechanism Patent  
[NASA-CASE-XMF-05224] c 14 N71-23726  
Detenting servomotor Patent  
[NASA-CASE-XNP-06936] c 15 N71-24695

Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294  
Two component bearing Patent  
[NASA-CASE-XLA-00013] c 15 N71-29136  
Hall effect transducer  
[NASA-CASE-LAR-10620-1] c 09 N72-25255  
Spiral groove seal --- for rotating shaft  
[NASA-CASE-XLE-10326-4] c 37 N74-15125  
Digital servo controller --- for rotating antenna shaft  
[NASA-CASE-KSC-10769-1] c 33 N74-29556  
Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c 44 N74-33379  
Ergometer calibrator --- for any ergometer utilizing rotating shaft  
[NASA-CASE-MFS-21045-1] c 35 N75-15932  
Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c 37 N76-22541  
Cyclical bi-directional rotary actuator  
[NASA-CASE-GSC-11883-1] c 37 N77-19458  
Tachometer  
[NASA-CASE-MFS-23175-1] c 35 N77-30436  
Rotary leveling base platform  
[NASA-CASE-ARC-10981-1] c 37 N78-27425  
Rotary electric device  
[NASA-CASE-GSC-12138-1] c 33 N79-20314  
Circumferential shaft seal  
[NASA-CASE-LEW-12119-1] c 37 N80-28711  
Multiple plate hydrostatic viscous damper  
[NASA-CASE-LEW-12445-1] c 37 N81-22360  
Clutchless multiple drive source for output shaft  
[NASA-CASE-ARC-11325-1] c 37 N82-22496  
Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497  
Vertical shaft windmill  
[NASA-CASE-LAR-12923-1] c 37 N84-12493  
Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084  
Variable force, eddy-current or magnetic damper  
[NASA-CASE-LEW-13717-1] c 37 N85-30333  
Rotary stepping device with memory metal actuator  
[NASA-CASE-NPO-15482-1] c 37 N87-23970  
Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787

## ROTATION

Semi-linear ball bearing Patent  
[NASA-CASE-XLA-02809] c 15 N71-22982  
Mechanical actuator Patent  
[NASA-CASE-XGS-04548] c 15 N71-24045  
Positioning mechanism  
[NASA-CASE-NPO-10679] c 15 N72-21462  
Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492  
System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516  
Acoustic rotation control  
[NASA-CASE-NPO-15689-1] c 71 N84-23233  
Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1-CU] c 35 N88-24944  
Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842  
Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787  
Controlled sample orientation and rotation in an acoustic levitator  
[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422

## ROTOR AERODYNAMICS

Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107

## ROTOR BLADES

Non-destructive method for applying and removing instrumentation on helicopter rotor blades  
[NASA-CASE-LAR-11201-1] c 35 N78-24515  
Apparatus and method for reducing thermal stress in a turbine rotor  
[NASA-CASE-LEW-12232-1] c 07 N79-10057

## ROTOR BLADES (TURBOMACHINERY)

Locking device for turbine rotor blades Patent  
[NASA-CASE-XNP-00816] c 28 N71-28928  
Turbo-machine blade vibration damper Patent  
[NASA-CASE-XLE-00155] c 28 N71-29154  
Apparatus for welding blades to rotors  
[NASA-CASE-LEW-10533-2] c 37 N74-11300  
Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c 07 N74-28226  
Blade retainer assembly  
[NASA-CASE-LEW-12608-1] c 07 N77-27116  
Platform for a swing root turbomachinery blade  
[NASA-CASE-LEW-12312-1] c 07 N77-32148  
Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560  
Shapes for rotating airfoils  
[NASA-CASE-LAR-12396-1] c 02 N84-28732

**ROTOR LIFT**

Constant lift rotor for a heavier than air craft  
[NASA-CASE-ARC-11045-1] c 05 N79-17847

**ROTOR SPEED**

Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904

**ROTORCRAFT AIRCRAFT**

Constant lift rotor for a heavier than air craft  
[NASA-CASE-ARC-11045-1] c 05 N79-17847

**ROTORS**

Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00085] c 28 N70-39895  
Angular position and velocity sensing apparatus Patent

[NASA-CASE-XGS-05680] c 14 N71-17585  
Indexing microwave switch Patent

[NASA-CASE-XNP-06507] c 09 N71-23548  
Detenting servomotor Patent

[NASA-CASE-XNP-06936] c 15 N71-24695  
Rotary vane attenuator wherein rotor has orthogonally

disposed resistive and dielectric cards  
[NASA-CASE-NPO-11418-1] c 14 N73-13420

Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515

Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569

Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788

Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631

**RUBBER**

Thermoplastic rubber comprising ethylene-vinyl acetate copolymer, asphalt and fluxing oil

[NASA-CASE-NPO-08835-1] c 27 N78-33228  
Formulated plastic separators for soluble electrode cells

--- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313

Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045

**RUBBER COATINGS**

Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c 18 N73-13562

**RUBY**

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide

[NASA-CASE-GSC-11577-1] c 37 N75-15992  
Bonding of sapphire to sapphire by eutectic mixture of

aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c 24 N79-25143

**RUBY LASERS**

Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440

**RUNWAY ALIGNMENT**

Magnetic position detection method and apparatus  
[NASA-CASE-ARC-10179-1] c 21 N72-22619

**RUNWAY CONDITIONS**

Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N84-32398

Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621

**RUNWAY LIGHTS**

Runway light Patent  
[NASA-CASE-XLA-00119] c 11 N70-33329

Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059

**RUNWAYS**

Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N84-32398

Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621

**RUPTURING**

Means for controlling rupture of shock tube diaphragms Patent  
[NASA-CASE-XAC-00731] c 11 N71-15960

**S**

**SABOT PROJECTILES**

Hypervelocity gun --- using both electric and chemical energy for projectile propulsion

[NASA-CASE-XLE-03186-1] c 09 N79-21084

**SAFETY**

Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745

**SAFETY DEVICES**

Pressure suit tie-down mechanism Patent  
[NASA-CASE-XMS-00784] c 05 N71-12335

Positive locking check valve Patent  
[NASA-CASE-XMS-09310] c 15 N71-22706

Protective device for machine and metalworking tools Patent  
[NASA-CASE-XLE-01092] c 15 N71-22797

Velocity limiting safety system Patent  
[NASA-CASE-XLA-07473] c 15 N71-24895

Combustion products generating and metering device  
[NASA-CASE-GSC-11095-1] c 14 N72-10375

Restraint torso for a pressurized suit  
[NASA-CASE-MS-12397-1] c 05 N72-25119

Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding

[NASA-CASE-LAR-10941-1] c 37 N74-21057  
Deployable flexible ventral fins for use as an emergency

spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421

Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c 05 N75-25915

Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477

Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287

Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343

Self-locking double retention redundant full pin release  
[NASA-CASE-NPO-16233-1] c 37 N86-20801

Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982

Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863

**SAFETY FACTORS**

Safety flywheel --- using flexible materials energy storage  
[NASA-CASE-HQN-10888-1] c 44 N79-14527

**SAHA EQUATIONS**

Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c 35 N76-15431

**SALT BATHS**

Process for applying a protective coating for salt bath brazing Patent  
[NASA-CASE-XLE-00046] c 15 N70-33311

**SAMARIUM**

Gd or Sm doped silicon semiconductor composition Patent  
[NASA-CASE-XLE-10715] c 26 N71-23292

**SAMPLERS**

Vacuum probe surface sampler  
[NASA-CASE-LAR-10623-1] c 14 N73-30395

Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407

**SAMPLES**

Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913

Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217

**SAMPLING**

Sample collecting impact bit Patent  
[NASA-CASE-XNP-01412] c 15 N70-42034

Fluid sample collector Patent  
[NASA-CASE-XMS-06767-1] c 14 N71-20435

Atmospheric sampling devices  
[NASA-CASE-NPO-11373] c 13 N72-25323

Digital to analog conversion apparatus  
[NASA-CASE-MSC-12458-1] c 08 N73-32081

Rock sampling --- apparatus for controlling particle size  
[NASA-CASE-XNP-10007-1] c 46 N74-23068

Rock sampling --- method for controlling particle size distribution  
[NASA-CASE-XNP-09755] c 46 N74-23069

Apparatus for microbiological sampling --- including automatic swabbing  
[NASA-CASE-LAR-11069-1] c 35 N75-12272

Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804

Remote water monitoring system  
[NASA-CASE-LAR-11973-1] c 35 N78-27384

Fluid sample collection and distribution system --- qualitative analysis of aqueous samples from several points  
[NASA-CASE-MSC-16841-1] c 34 N79-24285

Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849

Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213

Optical multiple sample vacuum integrating sphere  
[NASA-CASE-GSC-12849-1] c 74 N86-26190

Solid sorbent air sampler  
[NASA-CASE-MSC-20653-1] c 35 N86-26595

**SANDWICH STRUCTURES**

Sandwich panel construction Patent  
[NASA-CASE-XLA-00349] c 33 N70-37979

Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c 14 N70-41332

Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent

[NASA-CASE-XLE-01246] c 14 N71-10797  
Method of making inflatable honeycomb Patent

[NASA-CASE-XLA-03492] c 15 N71-22713  
Convoluting device for forming convolutions and the like

Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811

Composite sandwich lattice structure  
[NASA-CASE-LAR-11898-1] c 24 N78-10214

Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915

Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

Multilayer thermal protection system  
[NASA-CASE-LAR-12620-1] c 24 N82-32417

**SAPPHIRE**

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide

[NASA-CASE-GSC-11577-1] c 37 N75-15992  
Bonding of sapphire to sapphire by eutectic mixture of

aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c 24 N79-25143

**SATELLITE ANTENNAS**

Antenna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase

Patent  
[NASA-CASE-XLA-00414] c 07 N70-38200

Apparatus providing a directive field pattern and attitude sensing of a spin stabilized satellite Patent

[NASA-CASE-XGS-02607] c 31 N71-23009  
Apparatus and method for determining the position of

a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341

Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340

**SATELLITE ATTITUDE CONTROL**

Photosensitive device to detect bearing deviation Patent  
[NASA-CASE-XNP-00438] c 21 N70-35089

Attitude control for spacecraft Patent  
[NASA-CASE-XNP-02982] c 31 N70-41855

Satellite despersion device Patent  
[NASA-CASE-XMF-08523] c 31 N71-20396

Attitude control and damping system for spacecraft Patent  
[NASA-CASE-XLA-02551] c 21 N71-21708

Gravity gradient attitude control system Patent  
[NASA-CASE-GSC-10555-1] c 21 N71-27324

Spacecraft attitude control method and apparatus  
[NASA-CASE-HQN-10439] c 21 N72-21624

Dual purpose momentum wheels for spacecraft with magnetic recording  
[NASA-CASE-NPO-11481] c 21 N73-13644

Combination automatic-starting electrical plasma torch and gas shutoff valve --- for satellite attitude control  
[NASA-CASE-XLE-10717] c 37 N75-29426

Attitude control system  
[NASA-CASE-MFS-22787-1] c 15 N77-10113

Rim inertial measuring system  
[NASA-CASE-LAR-12052-1] c 18 N81-29152

**SATELLITE COMMUNICATION**

Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621

Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900

Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390

**SATELLITE CONTROL**

Stabilization of gravity oriented satellites Patent  
[NASA-CASE-XAC-01591] c 31 N71-17729

**SATELLITE DESIGN**

Inflation system for balloon type satellites Patent  
[NASA-CASE-XGS-03351] c 31 N71-16081

**SATELLITE INSTRUMENTS**

Reaction wheel scanner Patent  
[NASA-CASE-XGS-02629] c 14 N71-21082

**SATELLITE NETWORKS**

Satellite interface synchronization system  
[NASA-CASE-GSC-10390-1] c 07 N72-11149

**SATELLITE OBSERVATION**

Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327

**SATELLITE ORBITS**

Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent  
[NASA-CASE-HQN-00936] c 31 N71-29050

**SATELLITE ORIENTATION**

Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent  
[NASA-CASE-XGS-00466] c 21 N70-34297



- Cartwheel satellite synchronization system Patent  
[NASA-CASE-XGS-05579] c 31 N71-15676
- Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent  
[NASA-CASE-HQN-00936] c 31 N71-29050
- Analog spatial maneuver computer  
[NASA-CASE-GSC-10880-1] c 08 N72-11172
- SATELLITE PERTURBATION**  
Method and means for damping nutation in a satellite Patent  
[NASA-CASE-XMF-00442] c 31 N71-10747
- SATELLITE POWER TRANSMISSION (TO EARTH)**  
Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287
- SATELLITE ROTATION**  
Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485
- Stretch de-spin mechanism Patent  
[NASA-CASE-XGS-00619] c 30 N70-40016
- Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent  
[NASA-CASE-HQN-00936] c 31 N71-29050
- Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352
- SATELLITE TELEVISION**  
Adaptive system and method for signal generation Patent  
[NASA-CASE-GSC-11367] c 10 N71-26374
- SATELLITE TRACKING**  
Tracking receiver Patent  
[NASA-CASE-XGS-08679] c 10 N71-21473
- Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c 32 N75-15854
- Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472
- SATELLITE TRANSMISSION**  
Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c 32 N75-26195
- SATELLITE-BORNE INSTRUMENTS**  
Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723
- SATELLITE-BORNE PHOTOGRAPHY**  
Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
[NASA-CASE-GSC-11560-1] c 33 N74-20861
- Scanner --- photography from a spin stabilized synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465
- SATURABLE REACTORS**  
Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418
- Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N88-23937
- SATURATION**  
Method of detecting impending saturation of magnetic cores  
[NASA-CASE-ERC-10089] c 23 N72-17747
- SAWS**  
Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650
- SAWTOOTH WAVEFORMS**  
Linear sawtooth voltage-wave generator employing transistor timing circuit having capacitor-zener diode combination feedback Patent  
[NASA-CASE-XMS-01315] c 09 N70-41675
- SCANNERS**  
Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460
- Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980
- Method and means for an improved electron beam scanning system Patent  
[NASA-CASE-ERC-10552] c 09 N71-12539
- Reaction wheel scanner Patent  
[NASA-CASE-XGS-02629] c 14 N71-21082
- Electronic scanning of 2-channel monopulse patterns Patent  
[NASA-CASE-GSC-10299-1] c 09 N71-24804
- Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT  
[NASA-CASE-LAR-10320-1] c 09 N72-23172
- Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MFS-20335-1] c 35 N74-10415
- Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c 36 N74-20009
- Fast scan control for deflection type mass spectrometers  
[NASA-CASE-LAR-11428-1] c 35 N74-34857
- Electronically scanned pressure sensor module with in SITU calibration capability  
[NASA-CASE-LAR-12230-1] c 35 N79-14347
- Scannable beam forming interferometer antenna array system  
[NASA-CASE-GSC-12365-1] c 32 N80-28578
- Scanner --- photography from a spin stabilized synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465
- Optical crystal temperature gauge with fiber optic connections  
[NASA-CASE-MSC-18627-1] c 74 N82-30071
- Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272
- Self-correcting electronically scanned pressure sensor  
[NASA-CASE-LAR-12686-1] c 35 N84-14491
- Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928
- Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934
- Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247
- Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1-CU] c 35 N88-24944
- SCANNING**  
Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300
- Method of erasing target material of a vidicon tube or the like Patent  
[NASA-CASE-XNP-06028] c 09 N71-23189
- Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MSC-12593-1] c 17 N76-21250
- Magnetometer with a miniature transducer and automatic scanning  
[NASA-CASE-LAR-11617-2] c 35 N78-32397
- System and method for character recognition  
[NASA-CASE-NPO-11337-1] c 74 N81-19896
- SCATTERING CROSS SECTIONS**  
Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334
- SCENE ANALYSIS**  
Simulator scene display evaluation device  
[NASA-CASE-ARC-11504-1] c 09 N86-32447
- SCHLIENEN PHOTOGRAPHY**  
System and method for obtaining wide screen Schlieren photographs  
[NASA-CASE-NPO-14174-1] c 74 N79-20856
- SCHMIDT CAMERAS**  
Cooled echelle grating spectrometer --- for space telescope applications  
[NASA-CASE-NPO-14372-1] c 35 N80-26635
- SCHMIDT TELESCOPES**  
Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248
- SCHOOLS**  
Silent emergency alarm system for schools and the like  
[NASA-CASE-NPO-11307-1] c 10 N73-30205
- SCHOTTKY DIODES**  
High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c 44 N78-13526
- Solar cells having integral collector grids  
[NASA-CASE-LEW-12819-1] c 44 N79-11467
- Back wall solar cell  
[NASA-CASE-LEW-12236-2] c 44 N79-14528
- Schottky barrier solar cell  
[NASA-CASE-NPO-13689-2] c 44 N81-29525
- Method of Fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780
- Thin wire pointing method  
[NASA-CASE-NPO-15789-1] c 31 N83-19947
- Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112
- GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150
- SCOOPS**  
Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981
- SCRIBING**  
Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469
- SCRAMBLING (COMMUNICATION)**  
Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583
- SCREWS**  
Electromechanical control actuator system Patent  
[NASA-CASE-ERC-10022] c 15 N71-26635
- Adjustable support  
[NASA-CASE-NPO-10721] c 15 N72-27484
- Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304
- SCRUBBERS**  
High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588
- Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1CU] c 35 N86-29174
- SEA ICE**  
A technique for breaking ice in the path of a ship  
[NASA-CASE-LAR-10815-1] c 16 N72-22520
- SEA STATES**  
Oceanic wave measurement system  
[NASA-CASE-MFS-23862-1] c 48 N80-18667
- SEA SURFACE TEMPERATURE**  
Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723
- SEALERS**  
Pressure garment joint Patent  
[NASA-CASE-XMS-09636] c 05 N71-12344
- Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974
- Bonded elastomeric seal for electrochemical cells Patent  
[NASA-CASE-XGS-02631] c 03 N71-23006
- Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710
- Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355-1] c 23 N76-15268
- High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523
- SEALING**  
Foil seal  
[NASA-CASE-XLE-05130] c 15 N69-21362
- Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051
- Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974
- Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022
- Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23256
- Valve seat  
[NASA-CASE-NPO-10606] c 15 N72-25451
- Ampoule sealing apparatus and process --- for housing a semiconductor growth charge under vacuum  
[NASA-CASE-LAR-12847-1] c 33 N83-16633
- Optical pressure sealing coupling (light joint)  
[NASA-CASE-MFS-29348-1] c 74 N88-25303
- SEALS (STOPPERS)**  
Spacecraft battery seals  
[NASA-CASE-XGS-03864] c 15 N69-24320
- Flexible seal for valves Patent  
[NASA-CASE-XLE-00101] c 15 N70-33376
- Shrink-fit gas valve Patent  
[NASA-CASE-XGS-00587] c 15 N70-35087
- Thin-walled pressure vessel Patent  
[NASA-CASE-XLE-04677] c 15 N71-10577
- Foil seal Patent  
[NASA-CASE-XLE-05130-2] c 15 N71-19570
- Storage container for electronic devices Patent  
[NASA-CASE-MFS-20075] c 09 N71-26133
- Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294
- Spiral groove seal --- for rotating shaft  
[NASA-CASE-XLE-10326-4] c 37 N74-15125
- Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063
- High speed, self-acting shaft seal --- for use in turbine engines  
[NASA-CASE-LEW-11274-1] c 37 N75-21631
- Method of forming shrink-fit compression seal  
[NASA-CASE-LAR-11563-1] c 37 N77-23482
- Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090
- Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318
- Retractable environmental seal  
[NASA-CASE-MFS-23646-1] c 37 N79-22474
- Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475

- Fluid pressure balanced seal  
[NASA-CASE-XGS-01286-1] c 37 N79-33469
- Gas path seal  
[NASA-CASE-NPO-12131-3] c 37 N80-18400
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658
- Circumferential shaft seal  
[NASA-CASE-LEW-12119-1] c 37 N80-28711
- Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MS-C-18134-1] c 37 N81-15363
- Modified face seal for positive film stiffness  
[NASA-CASE-LEW-12989-1] c 37 N82-12442
- Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MS-C-18422-1] c 37 N82-16408
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540
- Continuous self-locking spiral wound seal --- for maintaining pressure between chambers in cryogenic wind tunnels  
[NASA-CASE-LAR-12315-1] c 37 N82-24490
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744
- Method of fabricating an abradable gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957
- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788
- Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332
- Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978
- Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786

**SEAMS (JOINTS)**

- Traveling sealer for contoured table Patent  
[NASA-CASE-XLA-01494] c 15 N71-24164
- Omnidirectional joint Patent  
[NASA-CASE-XMS-09635] c 05 N71-24623
- Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c 37 N74-11301

**SEAT BELTS**

- Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c 05 N75-25915

**SEATS**

- Seat cushion to provide realistic acceleration cues to aircraft simulator pilot  
[NASA-CASE-LAR-12149-2] c 09 N79-31228
- Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394
- Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797
- Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982

**SECONDARY EMISSION**

- Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

**SECTORS**

- Journal Bearings  
[NASA-CASE-LEW-11076-2] c 37 N74-32921

**SECURITY**

- Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559
- Portable appliance security apparatus  
[NASA-CASE-GSC-12399-1] c 33 N81-25299
- Random digital encryption secure communication system  
[NASA-CASE-MS-C-16462-1] c 32 N82-31583
- Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272

**SEGMENTS**

- Method and apparatus for making curved reflectors  
Patent  
[NASA-CASE-XLE-08917] c 15 N71-15597

**SEISMIC WAVES**

- Seismic displacement transducer Patent  
[NASA-CASE-XMF-00479] c 14 N70-34794
- Seismic vibration source  
[NASA-CASE-NPO-14112-1] c 46 N79-22679
- Underwater seismic source --- for petroleum exploration  
[NASA-CASE-NPO-14255-1] c 46 N79-23555

**SEISMOGRAPHS**

- Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272

**SELECTORS**

- Molecular beam velocity selector Patent  
[NASA-CASE-XLE-01533] c 11 N71-10777
- Peak polarity selector Patent  
[NASA-CASE-FRC-10010] c 10 N71-24862

**SELF ADAPTIVE CONTROL SYSTEMS**

- Self-actuating heat switches for redundant refrigeration systems  
[NASA-CASE-NPO-17085-1-CU] c 31 N89-12785

**SELF ALIGNMENT**

- Electro-optical alignment control system Patent  
[NASA-CASE-XMF-00908] c 14 N70-40238
- Electrical self-aligning connector --- orbital servicer vehicles  
[NASA-CASE-MFS-25211-2] c 33 N84-14423

**SELF ERECTING DEVICES**

- Flexible foam erectable space structures Patent  
[NASA-CASE-XLA-00686] c 31 N70-34135
- Erectable modular space station Patent  
[NASA-CASE-XLA-00678] c 31 N70-34296
- Manned space station Patent  
[NASA-CASE-XLA-00258] c 31 N70-38676
- Foldable conduit Patent  
[NASA-CASE-XLE-00620] c 32 N70-41579
- Self-erecting reflector Patent  
[NASA-CASE-XGS-09190] c 31 N71-16102
- Collapsible reflector Patent  
[NASA-CASE-XMS-03454] c 09 N71-20658
- Foldable self-erecting joint  
[NASA-CASE-MS-C-20635-1] c 18 N87-14373

**SELF FOCUSING**

- Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355

**SELF LUBRICATING MATERIALS**

- Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710
- Self-lubricating gears and other mechanical parts Patent  
[NASA-CASE-MFS-14971] c 15 N71-24984
- Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482

**SELF LUBRICATION**

- Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916
- Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585

**SELF MANEUVERING UNITS**

- Hand-held self-maneuvering unit Patent  
[NASA-CASE-XMS-05304] c 05 N71-12336
- Personal propulsion unit Patent  
[NASA-CASE-MFS-20130] c 28 N71-27585

**SELF PROPAGATION**

- Optical frequency waveguide Patent  
[NASA-CASE-HQN-10541-1] c 07 N71-26291

**SELF SEALING**

- Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c 54 N74-14845
- Self-stabilizing radial face seal  
[NASA-CASE-LEW-12991-1] c 37 N81-24442
- Self-compensating solenoid valve  
[NASA-CASE-ARC-11620-1] c 37 N87-25573

**SELF TESTS**

- Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633

**SEMICONDUCTOR DEVICES**

- Test fixture for pellet-like electrical elements  
[NASA-CASE-XNP-06032] c 09 N69-21926
- Semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980] c 09 N69-27422
- A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148
- Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34819
- Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560
- Method of making a silicon semiconductor device Patent  
[NASA-CASE-XLE-02792] c 26 N71-10607
- Apparatus and method for separating a semiconductor wafer Patent  
[NASA-CASE-ERC-10138] c 26 N71-14354
- Voltage tunable Gunn-type microwave generator Patent  
[NASA-CASE-XER-07894] c 09 N71-18721

Method and device for determining battery state of charge Patent

- [NASA-CASE-NPO-10194] c 03 N71-20407
- Multialarm summary alarm Patent  
[NASA-CASE-XLE-03061-1] c 10 N71-24798
- Method of temperature compensating semiconductor strain gages Patent  
[NASA-CASE-XLA-04555-1] c 14 N71-25892
- Pneumatic oscillator Patent  
[NASA-CASE-LEW-10345-1] c 10 N71-25899
- Method and apparatus for detecting gross leaks Patent  
[NASA-CASE-ERC-10033] c 14 N71-26672
- Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c 10 N71-27126
- Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992
- Method of manufacturing semiconductor devices using refractory dielectrics  
[NASA-CASE-XER-08476-1] c 26 N72-17820
- Fabrication of single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c 09 N72-22199
- Electrical insulating layer process  
[NASA-CASE-LEW-10489-1] c 15 N72-25447
- Gunn-type solid state devices  
[NASA-CASE-XER-07895] c 26 N72-25679
- Semiconductor transducer device  
[NASA-CASE-ERC-10087-2] c 14 N72-31446
- Hermetically sealed semiconductor  
[NASA-CASE-GSC-10791-1] c 15 N73-14469
- Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c 76 N76-25049
- Semiconductor projectile impact detector  
[NASA-CASE-MFS-23008-1] c 35 N78-18390
- Apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
[NASA-CASE-MFS-23315-1] c 76 N78-24950
- Apparatus for measuring semiconductor device resistance  
[NASA-CASE-NPO-14424-1] c 33 N80-32650
- Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280
- Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763
- Imaging X-ray spectrometer  
[NASA-CASE-GSC-12682-1] c 35 N84-33765
- Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112
- Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113
- Inelastic tunnel diodes  
[NASA-CASE-LEW-13833-1] c 33 N85-21492
- Low defect, high purity crystalline layers grown by selective deposition  
[NASA-CASE-NPO-15813-1] c 76 N85-30922
- Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894

**SEMICONDUCTOR DIODES**

- Tm<sub>2</sub>Ho<sub>2</sub>YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856

**SEMICONDUCTOR JUNCTIONS**

- Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027
- Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334
- Semiconductor surface protection material  
[NASA-CASE-ERC-10339-1] c 18 N73-30532
- High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764
- Screen printed interdigitated back contact solar cell  
[NASA-CASE-LEW-13414-1] c 44 N85-20530
- Method of measuring field funneling and range straggling in semiconductor charge-collecting junctions  
[NASA-CASE-NPO-16584-1-CU] c 76 N86-25269

**SEMICONDUCTORS (MATERIALS)**

- Depositing semiconductor films utilizing a thermal gradient  
[NASA-CASE-XKS-04614] c 15 N69-21460
- System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MS-C-12259-1] c 07 N70-12616
- High efficiency multivibrator Patent  
[NASA-CASE-XAC-00942] c 10 N71-16042
- Method of making impurity-type semiconductor electrical contacts Patent  
[NASA-CASE-XMF-01016] c 26 N71-17818
- Method of electrolytically binding a layer of semiconductors together Patent  
[NASA-CASE-XNP-01959] c 26 N71-23043

- Gd or Sm doped silicon semiconductor composition Patent  
[NASA-CASE-XLE-10715] c 26 N71-23292
- Infrared detectors  
[NASA-CASE-LAR-10728-1] c 14 N73-12445
- Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251
- Vapor deposition apparatus --- semiconductors and gallium arsenides  
[NASA-CASE-HQN-10462] c 25 N75-29192
- Application of semiconductor diffusants to solar cells by screen printing  
[NASA-CASE-LEW-12775-1] c 44 N79-11468
- Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910
- Voltage feed through apparatus having reduced partial discharge  
[NASA-CASE-GSC-12347-1] c 33 N80-18286
- Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019
- Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112
- Method for determining the point of zero zeta potential of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923
- Method of making macrocrystalline or single crystal semiconductor material  
[NASA-CASE-NPO-15904-1] c 76 N86-28760
- Method for growing low defect, high purity crystalline layers utilizing lateral overgrowth of a patterned mask  
[NASA-CASE-NPO-15813-2] c 76 N87-15882
- Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286
- Apparatus and procedure to detect a liquid-solid interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713
- Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879
- Liquid encapsulated float zone process and apparatus  
[NASA-CASE-MFS-28144-1] c 76 N88-24545
- Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120
- SENSITIVITY**
- Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256
- Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836
- SENSITOMETRY**
- Condition sensor system and method  
[NASA-CASE-MSC-14805-1] c 54 N78-32720
- SENSORS**
- Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757
- Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212
- SENSORY PERCEPTION**
- Tactile sensing means for prosthetic limbs  
[NASA-CASE-MFS-16570-1] c 05 N73-32013
- SEPARATED FLOW**
- Thrust vector control apparatus Patent  
[NASA-CASE-XLE-00208] c 28 N70-34294
- Double hinged flap Patent  
[NASA-CASE-XLA-01290] c 02 N70-42016
- Mixture separation cell Patent  
[NASA-CASE-XMS-02952] c 18 N71-20742
- Flow separation detector  
[NASA-CASE-ARC-11046-1] c 35 N78-14364
- Method and apparatus for detecting laminar flow separation and reattachment  
[NASA-CASE-LAR-13952-1-SB] c 34 N88-24910
- Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355
- SEPARATORS**
- Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465
- Umbilical separator for rockets Patent  
[NASA-CASE-XNP-00425] c 11 N70-38202
- Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062
- Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968
- Separator Patent  
[NASA-CASE-XLA-00415] c 15 N71-16079
- Water separating system Patent  
[NASA-CASE-XMS-13052] c 14 N71-20427
- Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023
- Air removal device  
[NASA-CASE-XLA-08914] c 15 N73-12492
- Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c 34 N74-30608
- Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c 34 N75-26282
- Method and apparatus for fluffing, separating, and cleaning fibers  
[NASA-CASE-LAR-11224-1] c 37 N76-18456
- Gels as battery separators for soluble electrode cells  
[NASA-CASE-LEW-12364-1] c 44 N77-22606
- Low gravity phase separator  
[NASA-CASE-MSC-14773-1] c 35 N78-12390
- Automatic multiple-sample applicator and electrophoresis apparatus  
[NASA-CASE-ARC-10991-1] c 25 N78-14104
- Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090
- Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530
- Formulated plastic separators for soluble electrode cells --- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313
- Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345
- In situ self cross-linking of polyvinyl alcohol battery separators  
[NASA-CASE-LEW-12972-1] c 44 N79-25481
- Partial interlaminar separation system for composites  
[NASA-CASE-LAR-12065-1] c 24 N81-14000
- Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615
- Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268
- Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641
- Separator for alkaline batteries and method of making same  
[NASA-CASE-GSC-10350-1] c 44 N82-24642
- Separator for alkaline electric cells and method of making  
[NASA-CASE-GSC-10017-1] c 44 N82-24643
- Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644
- Alkaline electrochemical cells and method of making  
[NASA-CASE-GSC-10349-1] c 44 N82-24645
- Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370
- Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708
- Electrophoresis device  
[NASA-CASE-MFS-25426-1] c 25 N83-10126
- Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187
- Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176
- Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144
- SEQUENCING**
- Synchronous counter Patent  
[NASA-CASE-XGS-02440] c 08 N71-19432
- Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418
- Digital function generator  
[NASA-CASE-NPO-11104] c 08 N72-22165
- MOD 2 sequential function generator for multibit binary sequence  
[NASA-CASE-NPO-10636] c 08 N72-25210
- Pseudonoise sequence generators with three tap linear feedback shift registers  
[NASA-CASE-NPO-11406] c 08 N73-12175
- Mechanical sequencer  
[NASA-CASE-MSC-19536-1] c 37 N77-22482
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-15670-1] c 33 N82-33634
- SEQUENTIAL ANALYSIS**
- Binary coded sequential acquisition ranging system  
[NASA-CASE-NPO-11194] c 08 N72-25209
- Event sequence detector  
[NASA-CASE-NPO-11703-1] c 10 N73-32144
- SEQUENTIAL COMPUTERS**
- Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751
- SEQUENTIAL CONTROL**
- Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503
- Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505
- Sequencing device utilizing planetary gear set  
[NASA-CASE-MSC-19514-1] c 37 N79-20377
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884
- SERUMS**
- Reduction of blood serum cholesterol  
[NASA-CASE-NPO-12119-1] c 52 N75-15270
- SERVICE LIFE**
- Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-10503-1] c 09 N72-21248
- Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574
- Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560
- SERVOAMPLIFIERS**
- Pneumatic amplifier Patent  
[NASA-CASE-MSC-12121-1] c 15 N71-27147
- SERVOCONTROL**
- Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460
- Proportional controller Patent  
[NASA-CASE-XAC-03392] c 03 N70-41954
- Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479
- Strain coupled servo control system Patent  
[NASA-CASE-XLA-08530] c 32 N71-25360
- Energy limiter for hydraulic actuators Patent  
[NASA-CASE-ARC-10131-1] c 15 N71-27754
- Digital servo controller --- for rotating antenna shaft  
[NASA-CASE-KSC-10769-1] c 33 N74-29556
- Digital servo control of random sound test excitation --- in reverberant acoustic chamber  
[NASA-CASE-NPO-11623-1] c 71 N74-31148
- Phase-locked servo system --- for synchronizing the rotation of slip ring assembly  
[NASA-CASE-MFS-22073-1] c 33 N75-13139
- Servo-controlled intravitral microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123
- Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047
- System and method for moving a probe to follow movements of tissue  
[NASA-CASE-NPO-15197-1] c 52 N83-25346
- Control system for an induction motor with energy recovery  
[NASA-CASE-MFS-25477-1] c 33 N84-14424
- Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604
- SERVOMECHANISMS**
- Interferometer servo system Patent  
[NASA-CASE-NPO-10300] c 14 N71-17662
- Line following servosystem Patent  
[NASA-CASE-XAC-00001] c 15 N71-28952
- A dc servosystem including an ac motor Patent  
[NASA-CASE-NPO-10700] c 07 N71-33613
- Ball screw linear actuator  
[NASA-CASE-NPO-11222] c 15 N72-25456
- Rotary actuator  
[NASA-CASE-NPO-10680] c 31 N73-14855
- Hydraulic drain means for servo-systems  
[NASA-CASE-NPO-10316-1] c 37 N77-22479
- Actuator mechanism  
[NASA-CASE-GSC-11883-2] c 37 N78-31426
- Apparatus for providing a servo drive signal in a high-speed stepping interferometer  
[NASA-CASE-NPO-13569-2] c 35 N79-14348
- Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407
- Electrical servo actuator bracket --- fuel control valves on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483
- Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205
- Servomechanism for Doppler shift compensation in optical correlator for synthetic aperture radar  
[NASA-CASE-NPO-14998-1] c 32 N83-18975
- SERVOMOTORS**
- Automatic closed circuit television arc guidance control Patent  
[NASA-CASE-MFS-13046] c 07 N71-19433
- Transistor servo system including a unique differential amplifier circuit Patent  
[NASA-CASE-XMF-05195] c 10 N71-24861
- Cyclically operable optical shutter  
[NASA-CASE-NPO-10758] c 14 N73-14427
- Rotary actuator  
[NASA-CASE-NPO-10680] c 31 N73-14855

Velocity servo for continuous scan Fourier interference spectrometer

[NASA-CASE-NPO-14093-1] c 35 N80-20563  
Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629

**SEWAGE TREATMENT**

Sewage sludge additive  
[NASA-CASE-NPO-13877-1] c 45 N82-11634  
Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654

**SHADES**

Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036

**SHAFTS (MACHINE ELEMENTS)**

Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505  
Elastic universal joint Patent  
[NASA-CASE-XNP-00416] c 15 N70-36947  
Apparatus for absorbing and measuring power Patent  
[NASA-CASE-XLE-00720] c 14 N70-40201  
Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073  
Ratchet mechanism Patent  
[NASA-CASE-MFS-12805] c 15 N71-17805  
Frictionless universal joint Patent  
[NASA-CASE-NPO-10646] c 15 N71-28467  
Spiral groove seal  
[NASA-CASE-XLE-10326-2] c 15 N72-29488  
High speed hybrid bearing comprising a fluid bearing and a rolling bearing connected in series  
[NASA-CASE-LEW-11152-1] c 15 N73-32359  
Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c 37 N74-10474  
Hole cutter --- drill bits and rotating shaft  
[NASA-CASE-MFS-22649-1] c 37 N75-25186  
Twin-capacitive shaft angle encoder with analog output signal  
[NASA-CASE-ARC-10897-1] c 33 N77-31404  
Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090  
Sequencing device utilizing planetary gear set  
[NASA-CASE-MSC-19514-1] c 37 N79-20377  
Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475  
Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364  
Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370  
Circumferential shaft seal  
[NASA-CASE-LEW-12119-2] c 37 N81-26447  
Hermetic seal for a shaft  
[NASA-CASE-NPO-15115-1] c 37 N82-24493  
Method for driving two-phase turbines with enhanced efficiency  
[NASA-CASE-NPO-15037-2] c 37 N85-29282  
Angular measurement system  
[NASA-CASE-MFS-25825-1] c 31 N86-29055  
Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037

**SHAKERS**  
Planar oscillatory stirring apparatus  
[NASA-CASE-MFS-26002-1-CU] c 35 N86-26598

**SHALE OIL**  
In-situ laser retorting of oil shale  
[NASA-CASE-LEW-12217-1] c 43 N78-14452  
Oil shale extraction using super-critical extraction  
[NASA-CASE-NPO-15656-1] c 43 N84-23012  
Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428

**SHALES**  
Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443  
Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423  
Coal-shale interface detector  
[NASA-CASE-MFS-23720-1] c 43 N80-23711  
Oil shale extraction using super-critical extraction  
[NASA-CASE-NPO-15656-1] c 43 N84-23012

**SHAPE CONTROL**  
Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1] c 37 N86-25789

**SHAPE MEMORY ALLOYS**  
Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604  
Rotary stepping device with memory metal actuator  
[NASA-CASE-NPO-15482-1] c 37 N87-23970

**SHAPED CHARGES**  
Coupling for linear shaped charge Patent  
[NASA-CASE-XLA-00189] c 33 N70-36846  
Lateral displacement system for separated rocket stages Patent  
[NASA-CASE-XLA-04804] c 31 N71-23008

**SHAPERS**

Mandrel for shaping solid propellant rocket fuel into a motor casing Patent  
[NASA-CASE-XLA-00304] c 27 N70-34783  
Tube dimpling tool Patent  
[NASA-CASE-XMS-06876] c 15 N71-21536  
Dielectric molding apparatus Patent  
[NASA-CASE-LAR-10121-1] c 15 N71-26721

**SHARKS**

Process for conditioning tanned sharkskin and articles made therefrom Patent  
[NASA-CASE-XMS-09691-1] c 18 N71-15545

**SHARPNESS**

Method of forming a sharp edge on an optical device  
[NASA-CASE-GSC-12348-1] c 74 N80-24149

**SHEAR CREEP**

Instrument for measuring torsional creep and recovery Patent  
[NASA-CASE-XLE-01481] c 14 N71-10781

**SHEAR FLOW**

Shear modulated fluid amplifier Patent  
[NASA-CASE-MFS-10412] c 12 N71-17578

**SHEAR PROPERTIES**

Parallel plate viscometer Patent  
[NASA-CASE-XNP-09402] c 14 N71-17584

**SHEAR STRESS**

Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505  
Angular velocity and acceleration measuring apparatus  
[NASA-CASE-ERC-10292] c 14 N72-25410  
Bonded joint and method --- for reducing peak shear stress in adhesive bonds  
[NASA-CASE-LAR-10900-1] c 37 N74-23064  
Method and apparatus for detecting laminar flow separation and reattachment  
[NASA-CASE-LAR-13952-1-SB] c 34 N88-24910

**SHEARING**

Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900

**SHELL ANODES**

Ring-cusp ion thruster with shell anode  
[NASA-CASE-LEW-13881-1] c 20 N85-21256

**SHELLS (STRUCTURAL FORMS)**

Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860

**SHIELDING**

Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937  
Shielded flat cable  
[NASA-CASE-MFS-13687-2] c 09 N72-22198  
System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865  
Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679  
Trailer shield assembly for a welding torch  
[NASA-CASE-MFS-29260-1] c 37 N88-24972

**SHIFT REGISTERS**

Binary to binary-coded-decimal converter Patent  
[NASA-CASE-XNP-00432] c 08 N70-35423  
Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503  
Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897  
Current steering commutator  
[NASA-CASE-NPO-10743] c 08 N72-21199  
Feedback shift register with states decomposed into cycles of equal length  
[NASA-CASE-NPO-11082] c 08 N72-22167  
MOD 2 sequential function generator for multibit binary sequence  
[NASA-CASE-NPO-10636] c 08 N72-25210  
Pseudonoise sequence generators with three tap linear feedback shift registers  
[NASA-CASE-NPO-11406] c 08 N73-12175  
A m-ary linear feedback shift register with binary logic  
[NASA-CASE-NPO-11868] c 10 N73-20254  
Counting digital filters  
[NASA-CASE-NPO-11821-1] c 08 N73-26175  
Event sequence detector  
[NASA-CASE-NPO-11703-1] c 10 N73-32144  
Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598  
Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c 33 N76-14373  
Selective data segment monitoring system --- using shift registers  
[NASA-CASE-ARC-10899-1] c 60 N77-19760  
Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751

**SHOCK ABSORBERS**

Pivotal shock absorbing pad assembly Patent  
[NASA-CASE-XMF-03856] c 31 N70-34159  
Frangible tube energy dissipation Patent  
[NASA-CASE-XLA-00754] c 15 N70-34850  
Shock absorbing support and restraint means Patent  
[NASA-CASE-XMS-01240] c 05 N70-35152  
Energy absorbing structure Patent Application  
[NASA-CASE-MSC-12279-1] c 15 N70-35679  
Landing pad assembly for aerospace vehicles Patent  
[NASA-CASE-XMF-02853] c 31 N70-36654  
Space craft soft landing system Patent  
[NASA-CASE-XMF-02108] c 31 N70-36845  
Double-acting shock absorber Patent  
[NASA-CASE-XMF-01045] c 15 N70-40354  
Articulated multiple couch assembly Patent  
[NASA-CASE-MSC-11253] c 05 N71-12343  
Shock absorber Patent  
[NASA-CASE-XMS-03722] c 15 N71-21530  
Impact energy absorber Patent  
[NASA-CASE-XLA-01530] c 14 N71-23092  
Low onset rate energy absorber  
[NASA-CASE-MSC-12279] c 15 N72-17450  
Impact energy absorbing system utilizing fractureable material  
[NASA-CASE-NPO-10671] c 15 N72-20440  
Translatory shock absorber for attitude sensors  
[NASA-CASE-MFS-22905-1] c 19 N76-22284  
Vehicular impact absorption system  
[NASA-CASE-NPO-14014-1] c 37 N79-10420  
Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982

**SHOCK LOADS**

Wind tunnel model damper Patent  
[NASA-CASE-XLA-09480] c 11 N71-33612

**SHOCK MEASURING INSTRUMENTS**

Semiconductor projectile impact detector  
[NASA-CASE-MFS-23008-1] c 35 N78-18390

**SHOCK RESISTANCE**

Method and apparatus for shock protection Patent  
[NASA-CASE-XLA-00482] c 15 N70-36409  
Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c 18 N73-14584  
Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206  
Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996  
Method of fabricating an abrasible gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957

**SHOCK TUBES**

Means for controlling rupture of shock tube diaphragms Patent  
[NASA-CASE-XAC-00731] c 11 N71-15960  
Shock tube bypass piston tunnel  
[NASA-CASE-NPO-12109] c 11 N72-22245  
Annular arc accelerator shock tube  
[NASA-CASE-NPO-13528-1] c 09 N77-10071

**SHOCK WAVE INTERACTION**

Absorptive splitter for closely spaced supersonic engine air inlets Patent  
[NASA-CASE-XLA-02865] c 28 N71-15563

**SHOCK WAVE LUMINESCENCE**

Shock-layer radiation measurement  
[NASA-CASE-XAC-02970] c 14 N69-39896

**SHOCK WAVE PROFILES**

Shock-layer radiation measurement  
[NASA-CASE-XAC-02970] c 14 N69-39896  
Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975

**SHOCK WAVES**

Shock tube powder dispersing apparatus Patent  
[NASA-CASE-XLE-04946] c 17 N71-24911  
Shock wave convergence apparatus  
[NASA-CASE-MFS-20890] c 14 N72-22439  
Synthesis of superconducting compounds by explosive compaction of powders  
[NASA-CASE-MFS-20861-1] c 18 N73-32437  
Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet  
[NASA-CASE-LEW-11915-1] c 35 N76-14431

**SHOES**

Jet shoes  
[NASA-CASE-XLA-08491] c 05 N69-21380

**SHORT CIRCUITS**

Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146  
Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898  
Analog to digital converter tester Patent  
[NASA-CASE-XLA-06713] c 14 N71-28991  
Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193

Test apparatus for locating shorts during assembly of electrical buses  
[NASA-CASE-ARC-11116-1] c 33 N82-24420

**SHOT PEENING**  
Method of peening and portable peening gun  
[NASA-CASE-MFS-23047-1] c 37 N76-18454

**SHOULDER**  
Shoulder and hip joint for hard space suits  
[NASA-CASE-ARC-11543-1] c 54 N86-28620  
Shoulder and hip joints for hard space suits and the like  
[NASA-CASE-ARC-11534-1] c 54 N86-29507

**SHROUDED NOZZLES**  
Two dimensional wedge/translating shroud nozzle  
[NASA-CASE-LAR-11919-1] c 07 N78-27121

**SHROUDED TURBINES**  
Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318  
Gas path seal  
[NASA-CASE-NPO-12131-3] c 37 N80-18400  
Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658  
Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996  
Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978

**SHROUDS**  
Composite powerplant and shroud therefor Patent  
[NASA-CASE-XLA-01043] c 28 N71-10780  
Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318  
Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540  
Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366  
Method of fabricating an abrasible gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957

**SHUTTERS**  
High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c 70 N74-21300

**SHUTTLE DERIVED VEHICLES**  
Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787

**SIDE INLETS**  
Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288

**SIDEBANDS**  
Phase-locked loop with sideband rejecting properties Patent  
[NASA-CASE-XNP-02723] c 07 N70-41680  
Method and means for generation of tunable laser sidebands in the far-infrared region  
[NASA-CASE-NPO-16497-1-CU] c 36 N87-25567

**SIDLOBE REDUCTION**  
Dual mode horn antenna Patent  
[NASA-CASE-XNP-01057] c 07 N71-15907  
Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

**SIGNAL ANALYSIS**  
Signal detection and tracking apparatus Patent  
[NASA-CASE-XGS-03502] c 10 N71-20852  
Method and apparatus for a single channel digital communications system --- synchronization of received PCM signal by digital correlation with reference signal  
[NASA-CASE-NPO-11302-2] c 32 N74-10132  
Differential phase shift keyed signal resolver  
[NASA-CASE-MSC-14066-1] c 33 N74-27705  
Correlation type phase detector --- with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c 33 N75-26243  
Real time analysis of voiced sounds  
[NASA-CASE-NPO-13465-1] c 32 N76-31372  
Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c 62 N76-31946  
Serial data correlator/code translator  
[NASA-CASE-KSC-11025-1] c 32 N83-13323  
Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304  
Acoustic emission frequency discrimination  
[NASA-CASE-MSC-20467-1] c 35 N88-23966

**SIGNAL ANALYZERS**  
System for monitoring signal amplitude ranges  
[NASA-CASE-XMS-04061-1] c 09 N69-39885  
Sampled data controller Patent  
[NASA-CASE-GSC-10554-1] c 08 N71-29033  
Family of frequency to amplitude converters  
[NASA-CASE-MSC-12395] c 09 N72-25257  
Apparatus for statistical time-series analysis of electrical signals  
[NASA-CASE-MSC-12428-1] c 10 N73-25240

Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c 33 N74-32711  
Electronic optical transfer function analyzer  
[NASA-CASE-MFS-21672-1] c 74 N76-19935  
Speech analyzer  
[NASA-CASE-GSC-11898-1] c 32 N77-30309

**SIGNAL DETECTION**  
Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958  
Method of detecting impending saturation of magnetic cores  
[NASA-CASE-ERC-10089] c 23 N72-17747  
Anti-multipath digital signal detector  
[NASA-CASE-LAR-11827-1] c 32 N77-10392  
Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20289  
Automatic communication signal monitoring system  
[NASA-CASE-NPO-13941-1] c 32 N79-10262  
Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313  
Method and apparatus for receiving and tracking phase modulated signals  
[NASA-CASE-MSC-16170-2] c 32 N84-27952

**SIGNAL DETECTORS**  
Surface roughness detector Patent  
[NASA-CASE-XLA-00203] c 14 N70-34161  
Pulse amplitude and width detector Patent  
[NASA-CASE-XMF-06519] c 09 N71-12519  
System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20518  
Digital modulator and demodulator Patent  
[NASA-CASE-ERC-10041] c 08 N71-29138  
Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423  
Pulse transducer with artifact signal attenuator --- heart rate sensors  
[NASA-CASE-FRC-11012-1] c 52 N80-23969  
Self-calibrating threshold detector  
[NASA-CASE-MSC-16370-1] c 35 N81-19427  
Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190  
Method and apparatus for detecting laminar flow separation and reattachment  
[NASA-CASE-LAR-13952-1-SB] c 34 N88-24910

**SIGNAL DISTORTION**  
Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249

**SIGNAL ENCODING**  
Adaptive compression of communication signals Patent  
[NASA-CASE-XLA-03076] c 07 N71-11266  
Self-calibrating threshold detector  
[NASA-CASE-MSC-16370-1] c 35 N81-19427  
Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583

**SIGNAL GENERATORS**  
Plural recorder system  
[NASA-CASE-XMS-06949] c 09 N69-21467  
Signal generator  
[NASA-CASE-XNP-05612] c 09 N69-21468  
Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11281  
Array phasing device Patent  
[NASA-CASE-ERC-10046] c 10 N71-18722  
Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174  
Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255  
Signal ratio system utilizing voltage controlled oscillators Patent  
[NASA-CASE-XMF-04367] c 09 N71-23545  
Signal processing apparatus for multiplex transmission Patent  
[NASA-CASE-NPO-10388] c 07 N71-24622  
Multialarm summary alarm Patent  
[NASA-CASE-XLE-03061-1] c 10 N71-24798  
Adaptive system and method for signal generation Patent  
[NASA-CASE-GSC-11367] c 10 N71-26374  
Voltage dropout sensor Patent  
[NASA-CASE-KSC-10020] c 10 N71-27338  
System for controlling the operation of a variable signal device  
[NASA-CASE-NPO-11064] c 07 N72-11150  
Digital function generator  
[NASA-CASE-NPO-11104] c 08 N72-22165  
Hall effect transducer  
[NASA-CASE-LAR-10620-1] c 09 N72-25255  
Gunn-type solid state devices  
[NASA-CASE-XER-07895] c 26 N72-25679

Audio frequency marker system  
[NASA-CASE-NPO-11147] c 14 N72-27408  
Digital servo control of random sound test excitation --- in reverberant acoustic chamber  
[NASA-CASE-NPO-11623-1] c 71 N74-31148  
Signal conditioner test set  
[NASA-CASE-KSC-10750-1] c 35 N75-12270  
System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519  
Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MFS-22671-1] c 35 N75-21582  
NDIR gas analyzer based on absorption modulation ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c 35 N75-30502  
Twin-capacitive shaft angle encoder with analog output signal  
[NASA-CASE-ARC-10897-1] c 33 N77-31404  
Apparatus for providing a servo drive signal in a high-speed stepping interferometer  
[NASA-CASE-NPO-13569-2] c 35 N79-14348  
Versatile LDV burst simulator  
[NASA-CASE-LAR-11859-1] c 35 N79-14349  
Underwater seismic source --- for petroleum exploration  
[NASA-CASE-NPO-14255-1] c 46 N79-23555  
Frequency translating phase conjugation circuit for active retrodirective antenna array --- microwave transmission  
[NASA-CASE-NPO-14536-1] c 32 N81-14185  
Integrated control system for a gas turbine engine  
[NASA-CASE-LEW-12594-2] c 07 N81-19116  
Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360  
Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345  
Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953  
Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132  
Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681

**SIGNAL MEASUREMENT**  
Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670

**SIGNAL MIXING**  
Signal multiplexer  
[NASA-CASE-XGS-01110] c 07 N69-24334  
Baseband signal combiner for large aperture antenna array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308

**SIGNAL PROCESSING**  
Adaptive compression of communication signals Patent  
[NASA-CASE-XLA-03076] c 07 N71-11266  
Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300  
Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537  
Correlation function apparatus Patent  
[NASA-CASE-XNP-00746] c 07 N71-21476  
Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174  
Feedback integrator with grounded capacitor Patent  
[NASA-CASE-XAC-10607] c 10 N71-23669  
Signal processing apparatus for multiplex transmission Patent  
[NASA-CASE-NPO-10388] c 07 N71-24622  
Television signal processing system Patent  
[NASA-CASE-NPO-10140] c 07 N71-24742  
Electronic scanning of 2-channel monopulse patterns Patent  
[NASA-CASE-GSC-10299-1] c 09 N71-24804  
Remodulator filter Patent  
[NASA-CASE-NPO-10198] c 09 N71-24806  
Video sync processor Patent  
[NASA-CASE-KSC-10002] c 10 N71-25865  
Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866  
Phase multiplying electronic scanning system Patent  
[NASA-CASE-NPO-10302] c 10 N71-26142  
Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266  
Digital modulator and demodulator Patent  
[NASA-CASE-ERC-10041] c 08 N71-29138  
Digital pulse width selection circuit Patent  
[NASA-CASE-XLA-07788] c 09 N71-29139  
Phase shift circuit apparatus  
[NASA-CASE-ARC-10269-1] c 10 N72-16172

Contourograph system for monitoring electrocardiograms  
 [NASA-CASE-MSC-13407-1] c 10 N72-20225  
 Recorder using selective noise filter  
 [NASA-CASE-ERC-10112] c 07 N72-21119  
 Logarithmic function generator utilizing an exponentially varying signal in an inverse manner  
 [NASA-CASE-ERC-10267] c 09 N72-23173  
 Flexible computer accessed telemetry  
 [NASA-CASE-NPO-11358] c 07 N72-25172  
 Data processor with conditionally supplied clock signals  
 [NASA-CASE-GSC-10975-1] c 08 N73-13187  
 Multichannel telemetry system  
 [NASA-CASE-NPO-11572] c 07 N73-16121  
 Measurement system  
 [NASA-CASE-MFS-20658-1] c 14 N73-30386  
 Digital to analog conversion apparatus  
 [NASA-CASE-MSC-12458-1] c 08 N73-32081  
 Fluid pressure amplifier and system  
 [NASA-CASE-LAR-10868-1] c 33 N74-11050  
 Low level signal limiter  
 [NASA-CASE-XLE-04791] c 32 N74-22096  
 Miniature multichannel biotelemetry system  
 [NASA-CASE-NPO-13065-1] c 52 N74-26625  
 Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
 [NASA-CASE-MSC-13999-1] c 52 N74-26626  
 Pulse stretcher for narrow pulses  
 [NASA-CASE-MSC-14130-1] c 33 N74-32711  
 Continuous Fourier transform method and apparatus --- for the analysis of simultaneous analog signal components  
 [NASA-CASE-ARC-10466-1] c 60 N75-13539  
 Signal conditioning circuit apparatus --- with constant input impedance  
 [NASA-CASE-ARC-10348-1] c 33 N75-19518  
 Television noise reduction device  
 [NASA-CASE-MSC-12607-1] c 32 N75-21485  
 Isolated output system for a class D switching-mode amplifier  
 [NASA-CASE-MFS-21616-1] c 33 N75-30429  
 Compact-bi-phase pulse coded modulation decoder  
 [NASA-CASE-KSC-10834-1] c 33 N76-14371  
 Filtering device --- removing electromagnetic noise from voice communication signals  
 [NASA-CASE-MFS-22729-1] c 32 N76-21366  
 System for measuring Reynolds in a turbulently flowing fluid --- signal processing  
 [NASA-CASE-ARC-10755-2] c 34 N76-27517  
 Three phase full wave dc motor decoder  
 [NASA-CASE-GSC-11824-1] c 33 N77-26386  
 Apparatus for determining thermophysical properties of test specimens  
 [NASA-CASE-LAR-11883-1] c 09 N77-27131  
 Analog to digital converter for two-dimensional radiant energy array computers  
 [NASA-CASE-GSC-11839-3] c 60 N77-32731  
 Hearing aid malfunction detection system  
 [NASA-CASE-MSC-14916-1] c 33 N78-10375  
 Swept group delay measurement  
 [NASA-CASE-NPO-13909-1] c 33 N78-25319  
 Quadrature demodulation  
 [NASA-CASE-GSC-12137-1] c 33 N78-32338  
 Bit error rate measurement above and below bit rate tracking threshold  
 [NASA-CASE-MSC-12743-1] c 32 N79-10263  
 Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
 [NASA-CASE-NPO-14525-1] c 32 N79-19195  
 Electrochemical detection device --- for use in microbiology  
 [NASA-CASE-LAR-11922-1] c 25 N79-24073  
 Scannable beam forming interferometer antenna array system  
 [NASA-CASE-GSC-12365-1] c 32 N80-28578  
 System for plotting subsoil structure and method therefor  
 [NASA-CASE-NPO-14191-1] c 31 N80-32584  
 CCD correlated quadruple sampling processor  
 [NASA-CASE-NPO-14426-1] c 33 N81-27396  
 Interleaving device  
 [NASA-CASE-GSC-12111-2] c 33 N81-29342  
 Reconfiguring redundancy management  
 [NASA-CASE-MSC-18498-1] c 60 N82-29013  
 Discriminator aided phase lock acquisition for suppressed carrier signals  
 [NASA-CASE-NPO-14311-1] c 33 N82-29539  
 Serial data correlator/code translator  
 [NASA-CASE-KSC-11025-1] c 32 N83-13323  
 Interferometric angle monitor  
 [NASA-CASE-GSC-12614-1] c 74 N83-32577  
 Real time pressure signal system for a rotary engine  
 [NASA-CASE-LEW-13622-1] c 07 N84-22559

Digital interface for bi-directional communication between a computer and a peripheral device  
 [NASA-CASE-MSC-20258-1] c 60 N84-28492  
 Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
 [NASA-CASE-NPO-15519-1] c 32 N84-34651  
 Optical stereo video signal processor  
 [NASA-CASE-MFS-25752-1] c 74 N86-21348  
 Method and apparatus for telemetry adaptive bandwidth compression  
 [NASA-CASE-MSC-20821-1] c 17 N87-25348  
 Processing circuit with asymmetry corrector and convolutional encoder for digital data  
 [NASA-CASE-MSC-20187-1] c 33 N87-25531  
 Doppler radar with multiphase modulation of transmitted and reflected signal  
 [NASA-CASE-MSC-18808-1] c 32 N88-23923  
 Method and apparatus for non-destructive testing of temper embrittlement in steels  
 [NASA-CASE-LAR-13817-1] c 26 N88-29012  
 Doppler-corrected differential detection system  
 [NASA-CASE-NPO-16987-1-CU] c 32 N88-30001  
 Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
 [NASA-CASE-LAR-13740-1] c 35 N88-30105  
 Frequency domain laser velocimeter signal processor  
 [NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

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 [NASA-CASE-XNP-00748] c 07 N70-36911  
 Reflectometer for receiver input impedance match measurement Patent  
 [NASA-CASE-XNP-10843] c 07 N71-11267  
 Diversity receiving system with diversity phase lock Patent  
 [NASA-CASE-XGS-01222] c 10 N71-20841  
 Signal detection and tracking apparatus Patent  
 [NASA-CASE-XGS-03502] c 10 N71-20852  
 Optimum predetection diversity receiving system Patent  
 [NASA-CASE-XGS-00740] c 07 N71-23098  
 Decoder system Patent  
 [NASA-CASE-NPO-10118] c 07 N71-24741  
 Antenna array phase quadrature tracking system Patent  
 [NASA-CASE-MSC-12205-1] c 07 N71-27056  
 Electricity measurement devices employing liquid crystalline materials  
 [NASA-CASE-ERC-10275] c 26 N72-25680  
 Filter for third order phase locked loops  
 [NASA-CASE-NPO-11941-1] c 10 N73-27171  
 Ferrofluidic solenoid  
 [NASA-CASE-NPO-11738-1] c 09 N73-30185  
 Scan converting video tape recorder  
 [NASA-CASE-NPO-10166-2] c 35 N76-16391  
 Faraday rotation measurement method and apparatus  
 [NASA-CASE-NPO-14839-1] c 35 N82-15381  
 Method and apparatus for receiving and tracking phase modulated signals  
 [NASA-CASE-MSC-16170-2] c 32 N84-27952  
 Single frequency multitransmitter telemetry  
 [NASA-CASE-LAR-13006-1] c 17 N87-16863

**SIGNAL REFLECTION**

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 [NASA-CASE-XNP-10843] c 07 N71-11267  
 Reflex feed system for dual frequency antenna with frequency cutoff means  
 [NASA-CASE-NPO-14022-1] c 32 N78-31321

**SIGNAL STABILIZATION**

Linear accelerator frequency control system Patent  
 [NASA-CASE-XGS-05441] c 10 N71-22962  
 Digital modulator and demodulator Patent  
 [NASA-CASE-ERC-10041] c 08 N71-29138  
 System for interference signal nulling by polarization adjustment  
 [NASA-CASE-NPO-13140-1] c 32 N75-24982  
 Fiber optic transmission line stabilization apparatus and method  
 [NASA-CASE-NPO-15036-1] c 74 N82-19029

**SIGNAL TO NOISE RATIOS**

System for improving signal-to-noise ratio of a communication signal Patent Application  
 [NASA-CASE-MSC-12259-1] c 07 N70-12616  
 Radar ranging receiver Patent  
 [NASA-CASE-XNP-00748] c 07 N70-36911  
 Phase detector assembly Patent  
 [NASA-CASE-XMF-00701] c 09 N70-40272  
 Signal-to-noise ratio estimating by taking ratio of mean and standard deviation of integrated signal samples Patent  
 [NASA-CASE-XNP-05254] c 07 N71-20791  
 Signal ratio system utilizing voltage controlled oscillators Patent  
 [NASA-CASE-XMF-04367] c 09 N71-23545

Recorder using selective noise filter  
 [NASA-CASE-ERC-10112] c 07 N72-21119  
 Parametric amplifiers with idler circuit feedback  
 [NASA-CASE-LAR-10253-1] c 09 N72-25258  
 System for improving signal-to-noise ratio of a communication signal  
 [NASA-CASE-MSC-12259-2] c 07 N72-33146  
 Signal-to-noise ratio determination circuit  
 [NASA-CASE-GSC-11239-1] c 10 N73-25241  
 Gated compressor, distortionless signal limiter  
 [NASA-CASE-NPO-11820-1] c 32 N74-19788

**SIGNAL TRANSMISSION**

Time division multiplex system  
 [NASA-CASE-XGS-05918] c 07 N69-39974  
 Apparatus for coupling a plurality of ungrounded circuits to a grounded circuit Patent  
 [NASA-CASE-XAC-00086] c 09 N70-33182  
 Bi-carrier demodulator with modulation Patent  
 [NASA-CASE-XMF-01160] c 07 N71-11298  
 Bi-polar phase detector and corrector for split phase PCM data signals Patent  
 [NASA-CASE-XGS-01590] c 07 N71-12392  
 Signal-to-noise ratio estimating by taking ratio of mean and standard deviation of integrated signal samples Patent  
 [NASA-CASE-XNP-05254] c 07 N71-20791  
 Elimination of frequency shift in a multiplex communication system Patent  
 [NASA-CASE-XNP-01306] c 07 N71-20814  
 Adaptive tracking notch filter system Patent  
 [NASA-CASE-XMF-01892] c 10 N71-22986  
 Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent  
 [NASA-CASE-XGS-03632] c 09 N71-23311  
 Junction range finder  
 [NASA-CASE-KSC-01018] c 14 N73-25461  
 Television multiplexing system  
 [NASA-CASE-KSC-10654-1] c 07 N73-30115  
 Controlled oscillator system with a time dependent output frequency  
 [NASA-CASE-NPO-11962-1] c 33 N74-10194  
 Pulse code modulated signal synchronizer  
 [NASA-CASE-MSC-12462-1] c 32 N74-20809  
 Pulse code modulated signal synchronizer  
 [NASA-CASE-MSC-12494-1] c 32 N74-20810  
 Digital transmitter for data bus communications system  
 [NASA-CASE-MSC-14558-1] c 32 N75-21486  
 Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
 [NASA-CASE-GSC-11743-1] c 32 N75-24981  
 Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
 [NASA-CASE-NPO-13683-1] c 35 N77-14411  
 Automatic transponder --- measurement of the internal delay time of a transponder  
 [NASA-CASE-GSC-12075-1] c 32 N77-31350  
 Fiber optic multiplex optical transmission system  
 [NASA-CASE-KSC-11047-1] c 74 N78-14889  
 Telephone multiline signaling using common signal pair  
 [NASA-CASE-KSC-11023-1] c 32 N79-23310  
 Precise RF timing signal distribution to remote stations --- fiber optics  
 [NASA-CASE-NPO-14749-1] c 32 N81-14186  
 Digital numerically controlled oscillator  
 [NASA-CASE-MSC-16747-1] c 33 N81-17349  
 High stability amplifier  
 [NASA-CASE-GSC-12646-1] c 33 N83-34191  
 Navigation system and method  
 [NASA-CASE-GSC-12508-1] c 04 N84-22546  
 Doppler radar having phase modulation of both transmitted and reflected return signals  
 [NASA-CASE-MSC-18675-1] c 32 N84-22820

**SIGNATURE ANALYSIS**

Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
 [NASA-CASE-NPO-13691-1] c 43 N79-17288

**SILANES**

Elastomeric silazane polymers and process for preparing the same Patent  
 [NASA-CASE-XMF-04133] c 06 N71-20717  
 Process for preparation of dianilinosilanes Patent  
 [NASA-CASE-XMF-06409] c 06 N71-23230  
 Process for preparation of high-molecular-weight polyaryloxysilanes Patent  
 [NASA-CASE-XMF-08674] c 06 N71-28807  
 Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers  
 [NASA-CASE-ARC-10915-2] c 27 N79-18052  
 Thermal reactor --- liquid silicon production from silane gas  
 [NASA-CASE-NPO-14369-1] c 44 N83-10501



- Process for producing tris (n-methylamino) methylsilane  
[NASA-CASE-MFS-25721-1] c 25 N85-21280
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040
- SILICA GEL**  
Gels as battery separators for soluble electrode cells  
[NASA-CASE-LEW-12364-1] c 44 N77-22606  
Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360
- SILICA GLASS**  
Non-toxic invert analog glass compositions of high modulus  
[NASA-CASE-HQN-10328-2] c 27 N82-29454  
High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455
- SILICATES**  
Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979  
Alkali-metal silicate binders and methods of manufacture  
[NASA-CASE-GSC-12303-1] c 24 N79-31347
- SILICIDES**  
Silicide coatings for refractory metals Patent  
[NASA-CASE-XLE-10910] c 18 N71-29040  
Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c 27 N76-16229
- SILICON**  
Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560  
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[NASA-CASE-XLE-10715] c 26 N71-23292  
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[NASA-CASE-XLE-08569] c 03 N71-23449  
Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c 44 N76-14600  
Method of controlling defect orientation in silicon crystal ribbon growth  
[NASA-CASE-NPO-13918-1] c 76 N79-11920  
Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229  
Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
[NASA-CASE-NPO-14382-1] c 31 N80-18231  
System for slicing silicon wafers  
[NASA-CASE-NPO-14406-1] c 37 N80-29703  
Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389  
Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469  
Method of protecting a surface with a silicon-slurry/aluminide coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441  
Thermal reactor --- liquid silicon production from silane gas  
[NASA-CASE-NPO-14369-1] c 44 N83-10501  
Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113  
Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475  
Ribbon growing method and apparatus  
[NASA-CASE-NPO-16306-1-CU] c 76 N85-30934  
Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455
- SILICON ALLOYS**  
Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358
- SILICON CARBIDES**  
A method for the deposition of beta-silicon carbide by isoeptaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482  
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[NASA-CASE-XLA-00158] c 26 N70-36805  
Apparatus for producing high purity silicon carbide crystals Patent  
[NASA-CASE-XLA-02057] c 26 N70-40015  
Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c 76 N76-25049  
Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798
- High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908  
Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267  
Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656  
Boron-containing organosilane polymers and ceramic materials thereof  
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- SILICON COMPOUNDS**  
Method of making a silicon semiconductor device Patent  
[NASA-CASE-XLE-02792] c 26 N71-10607  
Polymerizable disilanol having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979-2] c 06 N73-32030  
Infusible silazane polymer and process for producing same --- protective coatings  
[NASA-CASE-XMF-02526-1] c 27 N79-21190  
Silicon-slurry/aluminide coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795
- SILICON CONTROLLED RECTIFIERS**  
Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146  
Transient-compensated SCR inverter  
[NASA-CASE-XLA-08507] c 09 N69-39984  
Reversible ring counter employing cascaded single SCR stages Patent  
[NASA-CASE-XGS-01473] c 09 N71-10673  
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Combinational logic for generating gate drive signals for phase control rectifiers  
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- SILICON DIOXIDE**  
Intermittent type silica gel adsorption refrigerator Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906  
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[NASA-CASE-XMS-04312] c 07 N71-22984  
Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c 24 N74-19769  
Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c 27 N76-22376  
Two-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c 27 N76-22377  
Transmitting and reflecting diffuser --- using ultraviolet grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879  
Field effect transistor and method of construction thereof  
[NASA-CASE-MFS-23312-1] c 33 N78-27326  
Fibrous refractory composite insulation --- shielding reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062  
Attachment system for silica tiles --- thermal protection for space shuttle orbiter  
[NASA-CASE-MSC-18741-1] c 27 N82-29456  
Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763  
Apparatus and method for heating a material in a transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220
- SILICON FILMS**  
A method for the deposition of beta-silicon carbide by isoeptaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482  
Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659  
Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650
- SILICON JUNCTIONS**  
Radiation resistant silicon semiconductor devices Patent  
[NASA-CASE-XGS-07801] c 09 N71-12513
- SILICON NITRIDES**  
Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c 24 N74-19769  
Silicon nitride coated, plastic covered solar cell  
[NASA-CASE-LEW-11496-1] c 44 N77-14580  
Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371
- SILICON OXIDES**  
Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c 27 N76-23426
- SILICON POLYMERS**  
Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers  
[NASA-CASE-ARC-10915-2] c 27 N79-18052
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040
- SILICON RADIATION DETECTORS**  
Thin window, drifted silicon, charged particle detector  
[NASA-CASE-XLE-10529] c 14 N69-23191  
Biomedical radiation detecting probe Patent  
[NASA-CASE-XMS-01177] c 05 N71-19440  
Imaging X-ray spectrometer  
[NASA-CASE-GSC-12682-1] c 35 N84-33765
- SILICON TRANSISTORS**  
Tungsten contacts on silicon substrates  
[NASA-CASE-GSC-10695-1] c 09 N72-25259  
Method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c 15 N72-25457
- SILICONE RESINS**  
Vacuum pressure molding technique  
[NASA-CASE-LAR-10073-1] c 37 N76-24575
- SILICONES**  
Silicone containing solid propellant  
[NASA-CASE-NPO-14477-1] c 28 N80-28536
- SILICONIZING**  
Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00284] c 15 N71-16075
- SILOXANES**  
Synthesis of siloxane-containing epoxy polymers Patent  
[NASA-CASE-MFS-13994-1] c 06 N71-11240  
Method of producing alternating ether siloxane copolymers Patent  
[NASA-CASE-XMF-02584] c 06 N71-20905  
Siloxane containing epoxide compounds  
[NASA-CASE-MFS-13994-2] c 06 N72-25148  
Silphenylenesiloxane polymers having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c 06 N72-25151  
Low outgassing polydimethylsiloxane material and preparation thereof  
[NASA-CASE-GSC-11358-1] c 06 N73-26100  
Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof  
[NASA-CASE-LAR-13318-1] c 27 N87-14516
- SILVER**  
Method of making dry electrodes  
[NASA-CASE-FRC-10029-2] c 05 N72-25121  
Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334  
Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585
- SILVER ALLOYS**  
Brazing alloy composition  
[NASA-CASE-XMF-06053] c 26 N75-27126
- SILVER CHLORIDES**  
Electrode for biological recording  
[NASA-CASE-XMS-02872] c 05 N69-21925  
Bonding graphite with fused silver chloride  
[NASA-CASE-XGS-00963] c 15 N69-39735
- SILVER COMPOUNDS**  
Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c 03 N71-24718
- SILVER ZINC BATTERIES**  
Electric battery and method for operating same Patent  
[NASA-CASE-XGS-01674] c 03 N71-29129  
Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422
- SIMULATION**  
Method and apparatus for simulating gravitational forces on a living organism  
[NASA-CASE-MSC-20202-1] c 54 N84-16803
- SIMULATORS**  
Method and apparatus of simulating zero gravity conditions Patent  
[NASA-CASE-MFS-12750] c 27 N71-16223  
Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606  
Waveform simulator Patent  
[NASA-CASE-NPO-10251] c 10 N71-27365  
Laser Doppler velocity simulator --- to induce frequency shift  
[NASA-CASE-LAR-12176-1] c 36 N80-16321  
Weightlessness simulation system and process  
[NASA-CASE-ARC-11646-1] c 14 N87-25344
- SIMULTANEOUS EQUATIONS**  
Method and apparatus for self-calibration and phasing of array antenna  
[NASA-CASE-NPO-15920-1] c 33 N85-21493
- SINE SERIES**  
Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-10503-1] c 09 N72-21248  
Function generator for synthesizing complex vibration mode patterns  
[NASA-CASE-LAR-10310-1] c 10 N73-20253

## SINE WAVES

- Waveform simulator Patent  
[NASA-CASE-NPO-10251] c 10 N71-27365  
Wide band doubler and sine wave quadrature generator  
[NASA-CASE-NPO-11133] c 10 N72-20223  
Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-11389-1] c 33 N77-26387

## SINGLE CRYSTALS

- Production of high purity silicon carbide Patent  
[NASA-CASE-XLA-00158] c 26 N70-36805  
Fabrication of single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c 09 N72-22199  
Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c 35 N75-13213  
Vapor phase growth of groups 3-5 compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c 25 N75-26043  
Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910  
Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798  
Diamondlike flakes  
[NASA-CASE-LEW-12927-2] c 24 N85-21267  
Method of making macrocrystalline or single crystal semiconductor material  
[NASA-CASE-NPO-15904-1] c 76 N86-28760  
Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286  
Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862  
Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360

## SINTERING

- Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465  
Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468  
Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456  
Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734

## SIZE (DIMENSIONS)

- Apparatus for producing metal powders  
[NASA-CASE-XLE-06461-2] c 17 N72-28535  
Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618

## SIZE DETERMINATION

- Impact measuring technique  
[NASA-CASE-LAR-10913] c 14 N72-16282  
Small conductive particle sensor --- microfiber size determination  
[NASA-CASE-LAR-12552-1] c 35 N82-11431

## SIZE SEPARATION

- Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148  
Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036  
Acoustic particle separation  
[NASA-CASE-NPO-15559-1] c 71 N85-30765

## SIZING (SHAPING)

- Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114] c 15 N71-17650

## SIZING SCREENS

- Method of making screen by casting Patent  
[NASA-CASE-XLE-00953] c 15 N71-15966  
Screen particle separator  
[NASA-CASE-XNP-09770-2] c 15 N72-22483

## SKEWNESS

- Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420  
Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c 33 N76-18353

## SKID LANDINGS

- Nose gear steering system for vehicle with main skids Patent  
[NASA-CASE-XLA-01804] c 02 N70-34160

## SKIN (ANATOMY)

- Process for conditioning tanned sharkskin and articles made therefrom Patent  
[NASA-CASE-XMS-09691-1] c 18 N71-15545  
Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738  
Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783

## SKIN (STRUCTURAL MEMBER)

- Flexibly connected support and skin Patent  
[NASA-CASE-XLA-01027] c 31 N71-24035  
Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137

## SKIN FRICTION

- Skin friction measuring device for aircraft  
[NASA-CASE-FRC-11029-1] c 06 N81-17057  
Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470  
Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949  
Two-axis, self-nulling skin friction balance  
[NASA-CASE-LAR-13294-1] c 35 N86-32696  
Skin friction balance  
[NASA-CASE-LAR-13710-1] c 35 N88-29145

## SKIN TEMPERATURE (BIOLOGY)

- Thermistor holder for skin temperature measurements  
[NASA-CASE-ARC-10855-1] c 52 N77-10780

## SKIN TEMPERATURE (NON-BIOLOGICAL)

- Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085

## SKIPTS

- Initiatable transpiration cooled nozzle  
[NASA-CASE-MFS-20619] c 28 N72-11708

## SKY BRIGHTNESS

- Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232

## SLEEP

- EEG sleep analyzer and method of operation Patent  
[NASA-CASE-MSC-13282-1] c 05 N71-24729

## SLEEVEES

- Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c 15 N71-22877  
System for enhancing tool-exchange capabilities of a portable wrench  
[NASA-CASE-MFS-22283-1] c 37 N75-33395  
Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772  
Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137  
Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672

## SLENDER BODIES

- A support technique for vertically oriented launch vehicles  
[NASA-CASE-XLA-02704] c 11 N69-21540

## SLICING

- Method and apparatus for slicing crystals  
[NASA-CASE-GSC-12291-1] c 76 N80-18951  
System for slicing silicon wafers  
[NASA-CASE-NPO-14406-1] c 37 N80-29703  
Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469  
Workpiece positioning vise  
[NASA-CASE-GSC-12762-1] c 37 N84-28083

## SLIDING CONTACT

- Electrical connector pin with wiping action  
[NASA-CASE-XMF-04238] c 09 N69-39734  
Continuous turning slip ring assembly Patent  
[NASA-CASE-XMF-01049] c 15 N71-23049  
Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944

## SLIDING FRICTION

- Bearing material --- composite material with low friction surface for rolling or sliding contact  
[NASA-CASE-LEW-11930-1] c 24 N76-22309

## SLIP CASTING

- Process of casting heavy slips Patent  
[NASA-CASE-XLE-00106] c 15 N71-16076

## SLITS

- Slit regulated gas journal bearing Patent  
[NASA-CASE-XNP-00476] c 15 N70-38620  
Method of fabricating an object with a thin wall having a precisely shaped slit  
[NASA-CASE-LAR-10409-1] c 31 N74-21059  
Dual acting slit control mechanism  
[NASA-CASE-LAR-11370-1] c 35 N80-28686

## SLOPES

- Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367  
Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136

## SLOT ANTENNAS

- Virtual wall slot circularly polarized planar array antenna  
[NASA-CASE-NPO-10301] c 07 N72-11148

- Omnidirectional slot antenna for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c 09 N72-25247  
Circularly polarized antenna  
[NASA-CASE-ERC-10214] c 09 N72-31235  
Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c 32 N74-20864  
Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c 32 N76-15330  
Spiral slotted phased antenna array  
[NASA-CASE-MSC-18532-1] c 32 N82-27558

## SLOTS

- Belleville spring assembly with elastic guides  
[NASA-CASE-XNP-09452] c 15 N69-27504  
Direct lift control system Patent  
[NASA-CASE-LAR-10249-1] c 02 N71-26110  
Fine adjustment mount  
[NASA-CASE-MFS-20249] c 15 N72-11386  
Method and tool for machining a transverse slot about a bore  
[NASA-CASE-LAR-11855-1] c 37 N81-14319

## SLUDGE

- Sewage sludge additive  
[NASA-CASE-NPO-13877-1] c 45 N82-11634

## SLURRIES

- Silicon-slurry/aluminide coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795

## SLURRY PROPELLANTS

- Apparatus for making a metal slurry product Patent  
[NASA-CASE-XLE-00010] c 15 N70-33382

## SMOKE

- Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c 33 N71-28852  
Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656  
Smoke generator  
[NASA-CASE-ARC-10905-1] c 37 N77-13418  
Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178

## SODIUM CHLORIDES

- Diffuse reflective coating  
[NASA-CASE-GSC-11214-1] c 06 N73-13128  
Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644

## SODIUM VAPOR

- Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
[NASA-CASE-NPO-14382-1] c 31 N80-18231

## SOFT LANDING

- Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c 15 N70-34861  
Space craft soft landing system Patent  
[NASA-CASE-XMF-02108] c 31 N70-36845  
Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085

## SOFT LANDING SPACECRAFT

- Pivotal shock absorbing pad assembly Patent  
[NASA-CASE-XMF-03856] c 31 N70-34159

## SOIL MECHANICS

- Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367

## SOIL MOISTURE

- Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498

## SOIL SCIENCE

- Soil penetrometer  
[NASA-CASE-XNP-05530] c 14 N73-32321  
System for plotting subsoil structure and method therefor  
[NASA-CASE-NPO-14191-1] c 31 N80-32584

## SOILS

- Screen particle separator  
[NASA-CASE-XNP-09770-2] c 15 N72-22483  
Burrowing apparatus  
[NASA-CASE-XNP-07169] c 15 N73-32362  
Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c 43 N78-10529

## SOL-GEL PROCESSES

- Alkali-metal silicate binders and methods of manufacture  
[NASA-CASE-GSC-12303-1] c 24 N79-31347

## SOLAR ACTIVITY

- Method and apparatus for measuring solar activity and atmospheric radiation effects  
[NASA-CASE-ERC-10276] c 14 N73-26432

## SOLAR ARRAYS

- Deployable solar cell array  
[NASA-CASE-NPO-10883] c 31 N72-22874

- Use of unilluminated solar cells as shunt diodes for a solar array  
[NASA-CASE-GSC-10344-1] c 03 N72-27053
- Solar energy powered heliostope  
[NASA-CASE-GSC-10945-1] c 21 N72-31637
- Method of making silicon solar cell array --- and mounting on flexible substrate  
[NASA-CASE-LEW-11069-1] c 44 N74-14784
- Solar cell shingle  
[NASA-CASE-LEW-12587-1] c 44 N77-31601
- Hexagon solar power panel  
[NASA-CASE-NPO-12148-1] c 44 N78-27515
- Solar array strip and a method for forming the same  
[NASA-CASE-NPO-13652-1] c 44 N79-17314
- Closed Loop solar array-ion thruster system with power control circuitry  
[NASA-CASE-LEW-12780-1] c 20 N79-20179
- Bonding machine for forming a solar array strip  
[NASA-CASE-NPO-13652-2] c 44 N79-24431
- Double-sided solar cell package  
[NASA-CASE-NPO-14199-1] c 44 N79-25482
- Method of construction of a multi-cell solar array  
[NASA-CASE-MFS-23540-1] c 44 N79-26475
- Method for forming a solar array strip  
[NASA-CASE-NPO-13652-3] c 44 N80-14474
- Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944
- Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126
- Solar powered actuator with continuously variable auxiliary power control  
[NASA-CASE-MFS-25637-1] c 44 N85-21769
- SOLAR CELLS**
- Method for producing a solar cell having an integral protective covering  
[NASA-CASE-XGS-04531] c 03 N69-24267
- Radiation direction detector including means for compensating for photocell aging Patent  
[NASA-CASE-XLA-00183] c 14 N70-40239
- Attitude control for spacecraft Patent  
[NASA-CASE-XNP-02982] c 31 N70-41855
- Voltage-current characteristic simulator Patent  
[NASA-CASE-XMS-01554] c 10 N71-10578
- Method of making a silicon semiconductor device Patent  
[NASA-CASE-XLE-02792] c 26 N71-10607
- Solar cell including second surface mirrors Patent  
[NASA-CASE-NPO-10109] c 03 N71-11049
- Solar battery with interconnecting means for plural cells Patent  
[NASA-CASE-XNP-06506] c 03 N71-11050
- Solar cell submodule Patent  
[NASA-CASE-XNP-05821] c 03 N71-11056
- Interconnection of solar cells Patent  
[NASA-CASE-XGS-01475] c 03 N71-11058
- Solar cell matrix Patent  
[NASA-CASE-NPO-10821] c 03 N71-19545
- Roll-up solar array Patent  
[NASA-CASE-NPO-10188] c 03 N71-20273
- Method of making electrical contact on silicon solar cell and resultant product Patent  
[NASA-CASE-XLE-04787] c 03 N71-20492
- Solar cell mounting Patent  
[NASA-CASE-XNP-00826] c 03 N71-20895
- Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027
- Gd or Sm doped silicon semiconductor composition Patent  
[NASA-CASE-XLE-10715] c 26 N71-23292
- Protection of serially connected solar cells against open circuits by the use of shunting diode Patent  
[NASA-CASE-XLE-04535] c 03 N71-23354
- Silicon solar cell with cover glass bonded to cell by metal pattern Patent  
[NASA-CASE-XLE-08569] c 03 N71-23449
- Semiconductor material and method of making same Patent  
[NASA-CASE-XLE-02798] c 26 N71-23654
- Method of attaching a cover glass to a silicon solar cell Patent  
[NASA-CASE-XLE-08569-2] c 03 N71-24681
- Solar panel fabrication Patent  
[NASA-CASE-XNP-03413] c 03 N71-26726
- Solar cell Patent  
[NASA-CASE-ARC-10050] c 03 N71-33409
- Solar cell matrix  
[NASA-CASE-NPO-11190] c 03 N71-34044
- Recovery of radiation damaged solar cells through thermal annealing  
[NASA-CASE-XGS-04047-2] c 03 N72-11062
- Optimum performance spacecraft solar cell system  
[NASA-CASE-GSC-10669-1] c 03 N72-20031
- Solar cell assembly test method  
[NASA-CASE-NPO-10401] c 03 N72-20033
- Solid state matrices  
[NASA-CASE-NPO-10591] c 03 N72-22041
- Solar cell panels with light transmitting plate  
[NASA-CASE-NPO-10747] c 03 N72-22042
- Method of coating solar cell with borosilicate glass and resultant product  
[NASA-CASE-GSC-11514-1] c 03 N72-24037
- Apparatus for applying cover slides  
[NASA-CASE-NPO-10575] c 03 N72-25019
- Use of unilluminated solar cells as shunt diodes for a solar array  
[NASA-CASE-GSC-10344-1] c 03 N72-27053
- Stacked solar cell arrays  
[NASA-CASE-NPO-11771] c 03 N73-20040
- Method of making silicon solar cell array --- and mounting on flexible substrate  
[NASA-CASE-LEW-11069-1] c 44 N74-14784
- Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c 44 N76-14600
- Fabrication of polycrystalline solar cells on low-cost substrates  
[NASA-CASE-GSC-12022-1] c 44 N76-28635
- Solar cell grid patterns  
[NASA-CASE-NPO-13087-2] c 44 N76-31666
- Photovoltaic cell array  
[NASA-CASE-MFS-22458-1] c 44 N77-10635
- Silicon nitride coated, plastic covered solar cell  
[NASA-CASE-LEW-11496-1] c 44 N77-14580
- Solar cell assembly --- for use under high intensity illumination  
[NASA-CASE-LEW-11549-1] c 44 N77-19571
- High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c 44 N78-13526
- Shunt regulation electric power system  
[NASA-CASE-GSC-10135] c 33 N78-17296
- Process for utilizing low-cost graphite substrates for polycrystalline solar cells  
[NASA-CASE-GSC-12022-2] c 44 N78-24609
- Method of making encapsulated solar cell modules  
[NASA-CASE-LEW-12185-1] c 44 N78-25528
- Method for producing solar energy panels by automation  
[NASA-CASE-LEW-12541-1] c 44 N78-25529
- Hexagon solar power panel  
[NASA-CASE-NPO-12148-1] c 44 N78-27515
- Application of semiconductor diffusants to solar cells by screen printing  
[NASA-CASE-LEW-12775-1] c 44 N79-11468
- Method and apparatus for measuring minority carrier lifetimes and bulk diffusion length in P-N junction solar cells  
[NASA-CASE-NPO-14100-1] c 44 N79-12541
- Back wall solar cell  
[NASA-CASE-LEW-12236-2] c 44 N79-14528
- Method for fabricating solar cells having integrated collector grids  
[NASA-CASE-LEW-12819-2] c 44 N79-18444
- Solar cell module assembly jig  
[NASA-CASE-XGS-00829-1] c 44 N79-19447
- Double-sided solar cell package  
[NASA-CASE-NPO-14199-1] c 44 N79-25482
- Solar cell with improved N-region contact and method of forming the same  
[NASA-CASE-NPO-14205-1] c 44 N79-31752
- Solar cell module  
[NASA-CASE-NPO-14467-1] c 44 N79-31753
- Self-reconfiguring solar cell system  
[NASA-CASE-LEW-12586-1] c 44 N80-14472
- Driver for solar cell I-V characteristic plots  
[NASA-CASE-NPO-14096-1] c 44 N80-18551
- Solar cell angular position transducer  
[NASA-CASE-LAR-11999-1] c 44 N80-18552
- Method of mitigating titanium impurities effects in p-type silicon material for solar cells  
[NASA-CASE-NPO-14635-1] c 44 N80-24741
- Induced junction solar cell and method of fabrication  
[NASA-CASE-NPO-13786-1] c 44 N80-29835
- Solar cell system having alternating current output  
[NASA-CASE-LEW-12806-2] c 44 N81-12542
- Method and apparatus for fabricating improved solar cell modules  
[NASA-CASE-NPO-14416-1] c 44 N81-14389
- Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558
- Schottky barrier solar cell  
[NASA-CASE-NPO-13689-2] c 44 N81-29525
- Efficiency of silicon solar cells containing chromium  
[NASA-CASE-NPO-15179-1] c 44 N82-26777
- Method of Fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780
- Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709
- High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764
- Solar cell having improved back surface reflector  
[NASA-CASE-LEW-13620-1] c 44 N83-13579
- Heat transparent high intensity high efficiency solar cell  
[NASA-CASE-LEW-12892-1] c 44 N83-14692
- High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177
- Screen printed interdigitated back contact solar cell  
[NASA-CASE-LEW-13414-1] c 44 N85-20530
- Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875
- High band gap 2-6 and 3-5 tunneling junctions for silicon multijunction solar cells  
[NASA-CASE-NPO-16526-1CU] c 44 N87-17399
- Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879
- SOLAR COLLECTORS**
- Connector strips-positive, negative and T tabs  
[NASA-CASE-XGS-01395] c 03 N69-21539
- Device for directionally controlling electromagnetic radiation Patent  
[NASA-CASE-XLE-01716] c 09 N70-40234
- Roll-up solar array Patent  
[NASA-CASE-NPO-10188] c 03 N71-20273
- Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155
- Solar cell Patent  
[NASA-CASE-ARC-10050] c 03 N71-33409
- Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401
- Solar cell shingle  
[NASA-CASE-LEW-12587-1] c 44 N77-31601
- Solar energy collection system  
[NASA-CASE-NPO-13810-1] c 44 N77-32582
- Three-dimensional tracking solar energy concentrator and method for making same  
[NASA-CASE-NPO-13736-1] c 44 N77-32583
- Portable linear-focused solar thermal energy collecting system  
[NASA-CASE-NPO-13734-1] c 44 N78-10554
- Solar heating system  
[NASA-CASE-LAR-12009-1] c 44 N78-15560
- Low cost solar energy collection system  
[NASA-CASE-NPO-13579-1] c 44 N78-17460
- Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599
- Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527
- Non-tracking solar energy collector system  
[NASA-CASE-NPO-13813-1] c 44 N78-31526
- Solar cells having integral collector grids  
[NASA-CASE-LEW-12819-1] c 44 N79-11467
- Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469
- Non-tracking solar energy collector system  
[NASA-CASE-NPO-13817-1] c 44 N79-11471
- Solar cell collector and method for producing same  
[NASA-CASE-LEW-12552-2] c 44 N79-11472
- Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186
- Horizontally mounted solar collector  
[NASA-CASE-MFS-23349-1] c 44 N79-23481
- Primary reflector for solar energy collection systems and method of making same  
[NASA-CASE-NPO-13579-3] c 44 N79-24432
- Solar energy collection system  
[NASA-CASE-NPO-13579-2] c 44 N79-24433
- Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473
- Combined solar collector and energy storage system  
[NASA-CASE-LAR-12205-1] c 44 N80-20810
- Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518
- Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520
- Automotive absorption air conditioner utilizing solar and motor waste heat  
[NASA-CASE-NPO-15183-1] c 44 N82-26776
- Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388
- Solar concentrator protective system  
[NASA-CASE-NPO-15662-1] c 44 N84-28204
- Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706

**SOLAR ELECTRIC PROPULSION**

Closed Loop solar array-ion thruster system with power control circuitry  
[NASA-CASE-LEW-12780-1] c 20 N79-20179

**SOLAR ENERGY**

Stacked solar cell arrays  
[NASA-CASE-NPO-11771] c 03 N73-20040  
Solar energy power system --- using Freon  
[NASA-CASE-MFS-21628-1] c 44 N75-32581  
Thermostatically controlled non-tracking type solar energy concentrator  
[NASA-CASE-NPO-13497-1] c 44 N76-14602  
Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c 44 N77-32580  
Three-dimensional tracking solar energy concentrator and method for making same  
[NASA-CASE-NPO-13736-1] c 44 N77-32583  
Solar heating system  
[NASA-CASE-LAR-12009-1] c 44 N78-15560  
Method for producing solar energy panels by automation  
[NASA-CASE-LEW-12541-1] c 44 N78-25529  
Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469  
Primary reflector for solar energy collection systems  
[NASA-CASE-NPO-13579-4] c 44 N79-14529  
Method of construction of a multi-cell solar array  
[NASA-CASE-MFS-23540-1] c 44 N79-26475  
Solar cell module  
[NASA-CASE-NPO-14467-1] c 44 N79-31753  
Solar energy modulator  
[NASA-CASE-NPO-15388-1] c 44 N84-28203  
Saltless solar pond  
[NASA-CASE-NPO-15808-1] c 44 N84-34792

**SOLAR ENERGY ABSORBERS**

Panel for selectively absorbing solar thermal energy and the method of producing said panel  
[NASA-CASE-MFS-22562-1] c 44 N76-14595  
Solar energy absorber  
[NASA-CASE-MFS-22743-1] c 44 N76-22657  
Solar energy trap  
[NASA-CASE-MFS-22744-1] c 44 N76-24696  
Solar cell shingle  
[NASA-CASE-LEW-12587-1] c 44 N77-31601  
Low cost solar energy collection system  
[NASA-CASE-NPO-13579-1] c 44 N78-17460  
Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186  
Aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-3] c 44 N80-16452

**SOLAR ENERGY CONVERSION**

Solar energy power system  
[NASA-CASE-MFS-21628-2] c 44 N76-23675  
High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c 44 N78-13526  
Process for utilizing low-cost graphite substrates for polycrystalline solar cells  
[NASA-CASE-GSC-12022-2] c 44 N78-24609  
Solar photolysis of water  
[NASA-CASE-NPO-14126-1] c 44 N79-11470  
Thermal energy transformer  
[NASA-CASE-NPO-14058-1] c 44 N79-18443  
Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473  
Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558  
Solar energy control system --- temperature measurement  
[NASA-CASE-MFS-25287-1] c 44 N82-18686  
Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640  
Solar driven liquid metal MHD power generator  
[NASA-CASE-LAR-12495-1] c 44 N83-28573  
Photoelectrochemical electrodes  
[NASA-CASE-NPO-15458-1] c 25 N84-12262  
Solar pumped laser  
[NASA-CASE-LAR-12870-1] c 36 N84-16542  
Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018  
Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768  
Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410

**SOLAR FLUX DENSITY**

Solar energy modulator  
[NASA-CASE-NPO-15388-1] c 44 N84-28203

**SOLAR FURNACES**

High temperature lens construction Patent  
[NASA-CASE-XNP-04111] c 14 N71-15622

**SOLAR GENERATORS**

GaAs solar detector using manganese as a doping agent Patent  
[NASA-CASE-XNP-01328] c 26 N71-18064  
Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018

**SOLAR GRAVITATION**

Means for visually indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394

**SOLAR HEATING**

Portable linear-focused solar thermal energy collecting system  
[NASA-CASE-NPO-13734-1] c 44 N78-10554  
Solar heating system  
[NASA-CASE-LAR-12009-1] c 44 N78-15560  
Combined solar collector and energy storage system  
[NASA-CASE-LAR-12205-1] c 44 N80-20810  
Multi-channel temperature measurement amplification system --- solar heating systems  
[NASA-CASE-MFS-23775-1] c 44 N82-16474  
Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475  
Solar energy control system --- temperature measurement  
[NASA-CASE-MFS-25287-1] c 44 N82-18686

**SOLAR OBSERVATORIES**

Solar optical telescope dome control system Patent  
[NASA-CASE-MSC-10966] c 14 N71-19568

**SOLAR PONDS (HEAT STORAGE)**

Solar pond  
[NASA-CASE-NPO-13581-2] c 44 N78-31525  
Saltless solar pond  
[NASA-CASE-NPO-15808-1] c 44 N84-34792

**SOLAR POSITION**

Sun angle calculator  
[NASA-CASE-MSC-12617-1] c 35 N76-29552  
Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520

**SOLAR POWERED AIRCRAFT**

Solar powered aircraft  
[NASA-CASE-LAR-12615-1] c 05 N84-12154

**SOLAR RADIATION**

Space simulator Patent  
[NASA-CASE-XNP-00459] c 11 N70-38675  
Solar vane actuator Patent  
[NASA-CASE-XNP-05535] c 14 N71-23040  
Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086  
Wide angle sun sensor --- consisting of cylinder, insulation and pair of detectors  
[NASA-CASE-NPO-13327-1] c 35 N75-23910  
Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-LAR-10805-2] c 34 N77-18382  
Solar concentrator protective system  
[NASA-CASE-NPO-15662-1] c 44 N84-28204  
Stable density stratification solar pond  
[NASA-CASE-NPO-15419-2] c 44 N85-30474  
Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204

**SOLAR RADIATION SHIELDING**

High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448  
Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449  
Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706  
Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036

**SOLAR RADIO EMISSION**

Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174

**SOLAR REFLECTORS**

Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c 03 N70-41580  
Solar cell including second surface mirrors Patent  
[NASA-CASE-NPO-10109] c 03 N71-11049  
Method and apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917] c 15 N71-15597  
Thermal pump-compressor for space use Patent  
[NASA-CASE-XLA-00377] c 33 N71-17610  
Apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917-2] c 15 N71-24836  
Inorganic thermal control coatings  
[NASA-CASE-MFS-20011] c 18 N72-22566  
Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933  
Primary reflector for solar energy collection systems  
[NASA-CASE-NPO-13579-4] c 44 N79-14529  
Primary reflector for solar energy collection systems and method of making same  
[NASA-CASE-NPO-13579-3] c 44 N79-24432

Solar energy collection system

[NASA-CASE-NPO-13579-2] c 44 N79-24433

**SOLAR SAILS**

Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163  
Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364

**SOLAR SENSORS**

Plurality of photosensitive cells on a pyramidal base for planetary trackers  
[NASA-CASE-XNP-04180] c 07 N69-39736  
Space vehicle attitude control Patent  
[NASA-CASE-XNP-00465] c 21 N70-35395  
Sun tracker with rotatable plane-parallel plate and two photocells Patent  
[NASA-CASE-XGS-01159] c 21 N71-10678  
Solar sensor having coarse and fine sensing with matched preirradiated cells and method of selecting cells Patent  
[NASA-CASE-XLA-01584] c 14 N71-23269  
Sun direction detection system  
[NASA-CASE-NPO-13722-1] c 74 N77-22951  
Sun tracking solar energy collector  
[NASA-CASE-NPO-13921-1] c 44 N79-14526  
Solar tracking system  
[NASA-CASE-MFS-22999-1] c 44 N81-24520  
Sun sensing guidance system for high altitude aircraft  
[NASA-CASE-FRC-11052-1] c 04 N82-23231  
Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232  
Airborne tracking sunphotometer apparatus and system  
[NASA-CASE-ARC-11622-1] c 44 N88-14492

**SOLAR SIMULATORS**

High temperature lens construction Patent  
[NASA-CASE-XNP-04111] c 14 N71-15622  
High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c 33 N74-12913

**SOLAR-PUMPED LASERS**

Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204

**SOLDERED JOINTS**

Soldering device Patent  
[NASA-CASE-XLA-08911] c 15 N71-27214

**SOLDERING**

Solder flux which leaves corrosion-resistant coating Patent  
[NASA-CASE-XNP-03459-2] c 18 N71-15688  
Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078  
Method of plating copper on aluminum Patent  
[NASA-CASE-XLA-08966-1] c 17 N71-25903  
Resistance soldering apparatus  
[NASA-CASE-GSC-10913] c 15 N72-22491  
Positive contact resistance soldering unit  
[NASA-CASE-KSC-10242] c 15 N72-23497  
Bonding machine for forming a solar array strip  
[NASA-CASE-NPO-13652-2] c 44 N79-24431

**SOLDERS**

Method of coating circuit paths on printed circuit boards with solder Patent  
[NASA-CASE-XMF-01599] c 09 N71-20705  
Method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MFS-23405-1] c 26 N77-29260

**SOLENOID VALVES**

Two-step rocket engine bipropellant valve Patent  
[NASA-CASE-XMS-04890-1] c 15 N70-22192  
Automatic recording McLeod gauge Patent  
[NASA-CASE-XLE-03280] c 14 N71-23093  
Solenoid valve including guide for armature and valve member  
[NASA-CASE-GSC-10607-1] c 15 N72-20442  
Remote fire stack igniter --- with solenoid-controlled valve  
[NASA-CASE-MFS-21675-1] c 25 N74-33378  
Automatically operable self-leveling load table  
[NASA-CASE-MFS-22039-1] c 09 N75-12968  
Self-compensating solenoid valve  
[NASA-CASE-ARC-11620-1] c 37 N87-25573

**SOLENOIDS**

Solenoid construction Patent  
[NASA-CASE-XNP-01951] c 09 N70-41929  
Drive circuit for minimizing power consumption in inductive load Patent  
[NASA-CASE-NPO-10716] c 09 N71-24892  
Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
[NASA-CASE-GSC-11560-1] c 33 N74-20861  
Sprag solenoid brake --- development and operations of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c 37 N74-26976

Low temperature latching solenoid  
[NASA-CASE-MSC-18106-1] c 33 N82-11357

**SOLID CRYOGEN COOLING**  
Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324

**SOLID ELECTRODES**  
Polymeric electrolytic hygrometer  
[NASA-CASE-NPO-13948-1] c 35 N78-25391  
Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422

**SOLID LUBRICANTS**  
Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400  
Method of lubricating rolling element bearings Patent  
[NASA-CASE-XLE-09527] c 15 N71-17688  
Inorganic solid film lubricants Patent  
[NASA-CASE-XMF-03988] c 15 N71-21403  
Rolling element bearings Patent  
[NASA-CASE-XLE-09527-2] c 15 N71-26189  
Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916

**SOLID PHASES**  
Solid electrolyte cell  
[NASA-CASE-NPO-15269-1] c 44 N82-29710

**SOLID PROPELLANT IGNITION**  
Apparatus for igniting solid propellants Patent  
[NASA-CASE-XLE-00207] c 28 N70-33375  
Method of igniting solid propellants Patent  
[NASA-CASE-XLE-01988] c 27 N71-15634  
Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275  
Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588

**SOLID PROPELLANT ROCKET ENGINES**  
Spherical solid-propellant rocket motor Patent  
[NASA-CASE-XLA-00105] c 28 N70-33331  
Mandrel for shaping solid propellant rocket fuel into a motor casing Patent  
[NASA-CASE-XLA-00304] c 27 N70-34783  
Spherically-shaped rocket motor Patent  
[NASA-CASE-XHO-01897] c 28 N70-35381  
Propellant grain for rocket motors Patent  
[NASA-CASE-XGS-03556] c 27 N70-35534  
Apparatus and method for control of a solid fueled rocket vehicle Patent  
[NASA-CASE-XNP-00217] c 28 N70-38181  
Steerable solid propellant rocket motor Patent  
[NASA-CASE-XNP-00234] c 28 N70-38645  
Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779  
Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186  
Solid propellant rocket motor  
[NASA-CASE-XNP-03282] c 28 N72-20758  
Solid propellant rocket motor nozzle  
[NASA-CASE-NPO-11458] c 28 N72-23810  
Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c 28 N73-24784  
Space vehicle  
[NASA-CASE-MFS-22734-1] c 18 N75-19329  
Solid propellant rocket motor and method of making same  
[NASA-CASE-XLA-01349] c 20 N77-17143  
Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275  
Solid propellant motor  
[NASA-CASE-NPO-11458A] c 20 N78-32179  
Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588  
Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784

**SOLID PROPELLANTS**  
Variable thrust ion engine utilizing thermally decomposable solid fuel Patent  
[NASA-CASE-XMF-00923] c 28 N70-36802  
Means and method of measuring viscoelastic strain Patent  
[NASA-CASE-XNP-01153] c 32 N71-17645  
Processing for producing a sterilized instrument Patent  
[NASA-CASE-XNP-09763] c 14 N71-20461  
Method of forming difunctional polyisobutylene  
[NASA-CASE-NPO-10893] c 27 N73-22710

**SOLID ROCKET BINDERS**  
Solid propellant liner Patent  
[NASA-CASE-XNP-09744] c 27 N71-16392

Silicone containing solid propellant  
[NASA-CASE-NPO-14477-1] c 28 N80-28536

**SOLID ROCKET PROPELLANTS**  
Process for preparing sterile solid propellants Patent  
[NASA-CASE-XNP-01749] c 27 N70-41897  
Burning rate control of solid propellants Patent  
[NASA-CASE-XLE-03494] c 27 N71-21819  
Hydrazinium nitroformate propellant stabilized with nitroguanidine  
[NASA-CASE-NPO-12000] c 27 N72-25699  
Hydrazinium nitroformate propellant with saturated polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c 27 N73-16764  
Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c 28 N74-33209  
Casting propellant in rocket engine  
[NASA-CASE-LAR-11995-1] c 28 N77-10213  
Solid propellant rocket motor and method of making same  
[NASA-CASE-XLA-01349] c 20 N77-17143  
High performance ammonium nitrate propellant  
[NASA-CASE-NPO-14260-1] c 28 N79-28342  
Process for the leaching of AP from propellant  
[NASA-CASE-NPO-14109-1] c 28 N80-23471  
Silicone containing solid propellant  
[NASA-CASE-NPO-14477-1] c 28 N80-28536

**SOLID STATE**  
Solid state chemical source for ammonia beam maser Patent  
[NASA-CASE-XGS-01504] c 16 N70-41578

**SOLID STATE DEVICES**  
Solid state switch  
[NASA-CASE-XNP-09228] c 09 N69-27500  
Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c 09 N70-35440  
Operational integrator Patent  
[NASA-CASE-NPO-10230] c 09 N71-12520  
Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486  
Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897  
Solid state television camera system Patent  
[NASA-CASE-XMF-06092] c 07 N71-24612  
Switching circuit Patent  
[NASA-CASE-XNP-06505] c 10 N71-24799  
Transverse piezoresistance and pinch effect electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490  
A solid state acoustic variable time delay line Patent  
[NASA-CASE-ERC-10032] c 10 N71-25900  
Broadband stable power multiplier Patent  
[NASA-CASE-XNP-10854] c 10 N71-26331  
Solid state remote circuit selector switch  
[NASA-CASE-LEW-10387] c 09 N72-22201  
RF controlled solid state switch  
[NASA-CASE-ARC-10136-1] c 09 N72-22202  
Thermal to electrical power conversion system with solid-state switches with Seebeck effect compensation  
[NASA-CASE-NPO-11388] c 03 N72-23048  
Radiation sensitive solid state switch  
[NASA-CASE-NPO-10817-1] c 08 N73-30135  
Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c 33 N74-14939  
Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251  
Solid-state current transformer  
[NASA-CASE-MFS-22560-1] c 33 N77-14335  
Space-charge-limited solid-state triode  
[NASA-CASE-NPO-13064-1] c 33 N79-11314  
Control means for a solid state crossbar switch  
[NASA-CASE-NPO-15066-1] c 33 N82-29538  
Self-correcting electronically scanned pressure sensor  
[NASA-CASE-LAR-12686-1] c 35 N84-14491  
Imaging X-ray spectrometer  
[NASA-CASE-GSC-12682-1] c 35 N84-33765  
Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768  
Hermetically sealable package for hybrid solid-state electronic devices and the like  
[NASA-CASE-MSC-20181-1] c 33 N88-23941

**SOLID SURFACES**  
Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170

**SOLID WASTES**  
Process of forming catalytic surfaces for wet oxidation reactions  
[NASA-CASE-MSC-14831-1] c 25 N78-10225

**SOLID-SOLID INTERFACES**  
Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443  
Coal-rock interface detector  
[NASA-CASE-MFS-23725-1] c 43 N79-31706

**SOLIDIFICATION**  
Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650  
Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125

**SOLIDIFIED GASES**  
Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324

**SOLIDS FLOW**  
Use of glow discharge in fluidized beds  
[NASA-CASE-ARC-11245-1] c 28 N82-18401

**SOLUBILITY**  
Fire resistant coating composition Patent  
[NASA-CASE-GSC-10072] c 18 N71-14014  
Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187  
Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361  
Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800

**SOLUTES**  
Specific wavelength colorimeter --- for measuring given solute concentration in test sample  
[NASA-CASE-MSC-14081-1] c 35 N74-27860

**SOLUTIONS**  
Method and apparatus for minimizing convection during crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968  
Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120

**SOLVENT EXTRACTION**  
Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119  
Supercritical multicomponent solvent coal extraction  
[NASA-CASE-NPO-15767-1] c 23 N84-16255  
Infusion extractor  
[NASA-CASE-MSC-20761-1] c 37 N87-15465

**SOLVENTS**  
Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246  
Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709  
Process for producing tris (n-methylamino) methylsilane  
[NASA-CASE-MFS-25721-1] c 25 N85-21280  
Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800  
Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

**SONAR**  
Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443  
Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376

**SONIC BOOMS**  
Instrumentation for measurement of aircraft noise and sonic boom  
[NASA-CASE-LAR-11173-1] c 35 N75-19614  
Instrumentation for measuring aircraft noise and sonic boom  
[NASA-CASE-LAR-11476-1] c 07 N76-27232

**SORBATES**  
Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c 35 N78-19465

**SORET COEFFICIENT**  
Method of growing composites of the type exhibiting the Soret effect --- improved structure of eutectic alloy crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187

**SOUND GENERATORS**  
Ejectable underwater sound source recovery assembly  
[NASA-CASE-LAR-10595-1] c 35 N74-16135  
Acoustic suspension system  
[NASA-CASE-NPO-15435-1] c 71 N83-36846  
Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

**SOUND LOCALIZATION**  
Resolution enhanced sound detecting apparatus  
[NASA-CASE-NPO-14134-1] c 71 N79-23753

**SOUND PRESSURE**  
Instrumentation for measurement of aircraft noise and sonic boom  
[NASA-CASE-LAR-11173-1] c 35 N75-19614  
Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867

## SOUND PROPAGATION

System for plotting subsoil structure and method therefor

[NASA-CASE-NPO-14191-1] c 31 N80-32584

## SOUND RANGING

Echo tracker/range finder for radars and sonars

[NASA-CASE-NPO-14361-1] c 32 N82-23376

## SOUND TRANSDUCERS

Method for detecting hydrogen gas

[NASA-CASE-XMF-03873] c 06 N69-39733

Cosmic dust sensor

[NASA-CASE-GSC-10503-1] c 14 N72-20381

Resolution enhanced sound detecting apparatus

[NASA-CASE-NPO-14134-1] c 71 N79-23753

Pulse transducer with artifact signal attenuator --- heart rate sensors

[NASA-CASE-FRC-11012-1] c 52 N80-23969

Acoustic system for material transport

[NASA-CASE-NPO-15453-1] c 71 N83-32515

Vibrating-chamber levitation systems

[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752

## SOUND WAVES

Phonocardiograph transducer Patent

[NASA-CASE-XMS-05365] c 14 N71-22993

Material suspension within an acoustically excited resonant chamber --- at near weightless conditions

[NASA-CASE-NPO-13263-1] c 12 N75-24774

Acoustic energy shaping

[NASA-CASE-NPO-13802-1] c 71 N78-10837

Acoustic driving of rotor

[NASA-CASE-NPO-14005-1] c 71 N79-20827

Acoustic bubble removal method

[NASA-CASE-NPO-15334-1] c 71 N83-35781

Acoustic ground impedance meter

[NASA-CASE-LAR-12995-1] c 35 N84-22933

Acoustic rotation control

[NASA-CASE-NPO-15689-1] c 71 N84-23233

Acoustic agglomeration methods and apparatus

[NASA-CASE-NPO-15466-1] c 71 N85-22104

Dual differential interferometer

[NASA-CASE-LAR-12966-1] c 35 N85-30282

Acoustic particle separation

[NASA-CASE-NPO-15559-1] c 71 N85-30765

Acoustic radiation stress measurement

[NASA-CASE-LAR-13440-1] c 71 N87-21653

## SOUNDING ROCKETS

Altitude control system for sounding rockets Patent

[NASA-CASE-XGS-01654] c 31 N71-24750

Method and system for ejecting fairing sections from a rocket vehicle

[NASA-CASE-GSC-10590-1] c 31 N73-14853

## SPACE CAPSULES

Assembly for recovering a capsule Patent

[NASA-CASE-XMF-00641] c 31 N70-36410

Space capsule Patent

[NASA-CASE-XLA-01332] c 31 N71-15664

Space capsule ejection assembly Patent

[NASA-CASE-XMF-03169] c 31 N71-15675

## SPACE CHARGE

Space-charge-limited solid-state triode

[NASA-CASE-NPO-13064-1] c 33 N79-11314

## SPACE COMMUNICATION

Multiple input radio receiver Patent

[NASA-CASE-XLA-00901] c 07 N71-10775

Tracking receiver Patent

[NASA-CASE-XGS-08679] c 10 N71-21473

Apparatus providing a directive field pattern and attitude sensing of a spin stabilized satellite Patent

[NASA-CASE-XGS-02607] c 31 N71-23009

Space communication system for compressed data with a concatenated Reed-Solomon-Viterbi coding channel

[NASA-CASE-NPO-13545-1] c 32 N77-12240

## SPACE ENVIRONMENT SIMULATION

Voltage-current characteristic simulator Patent

[NASA-CASE-XMS-01554] c 10 N71-10578

Fluid dispensing apparatus and method Patent

[NASA-CASE-XLE-01182] c 27 N71-15635

Reduced gravity simulator Patent

[NASA-CASE-XLA-01787] c 11 N71-16028

Apparatus for measuring electric field strength on the surface of a model vehicle Patent

[NASA-CASE-XLE-02038] c 09 N71-16086

Optical characteristics measuring apparatus Patent

[NASA-CASE-XNP-08840] c 23 N71-16365

Omni-directional anisotropic molecular trap Patent

[NASA-CASE-XGS-00783] c 30 N71-17788

Space environmental work simulator Patent

[NASA-CASE-XMF-07488] c 11 N71-18773

Mechanical simulator of low gravity conditions Patent

[NASA-CASE-MFS-10555] c 11 N71-19494

Self-lubricating fluoride metal composite materials Patent

[NASA-CASE-XLE-08511] c 18 N71-23710

Autoignition test cell Patent

[NASA-CASE-KSC-10198] c 11 N71-28629

Illumination system including a virtual light source

Patent

[NASA-CASE-HQN-10781] c 23 N71-30292

Underwater space suit pressure control regulator

[NASA-CASE-MFS-20332] c 05 N72-20097

Diffuser/ejector system for a very high vacuum environment

[NASA-CASE-MFS-25791-1] c 09 N84-27749

Variable energy, high flux, ground-state atomic oxygen source

[NASA-CASE-NPO-16640-1-CU] c 72 N87-21661

## SPACE ERECTABLE STRUCTURES

Flexible foam erectable space structures Patent

[NASA-CASE-XLA-00686] c 31 N70-34135

Erectable modular space station Patent

[NASA-CASE-XLA-00678] c 31 N70-34296

Manned space station Patent

[NASA-CASE-XLA-00258] c 31 N70-38676

Collapsible loop antenna for space vehicle Patent

[NASA-CASE-XMF-00437] c 07 N70-40202

Passive communication satellite Patent

[NASA-CASE-XLA-00210] c 30 N70-40309

Flexible wing deployment device Patent

[NASA-CASE-XLA-01220] c 02 N70-41863

Capillary radiator Patent

[NASA-CASE-XLE-03307] c 33 N71-14035

Space manufacturing machine Patent

[NASA-CASE-MFS-20410] c 15 N71-19214

Roll-up solar array Patent

[NASA-CASE-NPO-10188] c 03 N71-20273

Collapsible reflector Patent

[NASA-CASE-XMS-03454] c 09 N71-20658

Inflatable support structure Patent

[NASA-CASE-XLA-01731] c 32 N71-21045

Radiator deployment actuator Patent

[NASA-CASE-MSC-11817-1] c 15 N71-26611

Inflatable tether Patent

[NASA-CASE-XMS-10993] c 15 N71-28936

Expandable space frames

[NASA-CASE-ERC-10365-1] c 31 N73-32749

Apparatus for assembling space structure

[NASA-CASE-MFS-23579-1] c 18 N79-11108

Lightweight structural columns --- space erectable trusses

[NASA-CASE-LAR-12095-1] c 31 N81-25258

Telescoping columns --- parabolic antenna support

[NASA-CASE-LAR-12195-1] c 31 N81-27324

Joint for deployable structures

[NASA-CASE-NPO-16038-1] c 37 N86-19605

Foldable self-erecting joint

[NASA-CASE-MSC-20635-1] c 18 N87-14373

Bi-stem gripping apparatus

[NASA-CASE-MFS-28185-1] c 37 N88-23979

Clevis joint for deployable space structures

[NASA-CASE-LAR-13898-1] c 37 N88-30130

Space station erectable manipulator placement system

[NASA-CASE-MSC-21096-1] c 18 N89-12621

## SPACE EXPLORATION

Vehicle for use in planetary exploration

[NASA-CASE-NPO-11366] c 11 N73-26238

## SPACE FLIGHT

Portable environmental control system Patent

[NASA-CASE-XMS-09632-1] c 05 N71-11203

Television simulation for aircraft and space flight

Patent

[NASA-CASE-XFR-03107] c 09 N71-19449

## SPACE FLIGHT FEEDING

Helmet feedport

[NASA-CASE-XMS-09653] c 54 N78-17680

Self-charging metering and dispensing device for fluids

[NASA-CASE-MSC-20275-1] c 35 N85-21595

## SPACE INDUSTRIALIZATION

Apparatus for assembling space structure

[NASA-CASE-MFS-23579-1] c 18 N79-11108

## SPACE MAINTENANCE

Thruster maintenance system Patent

[NASA-CASE-MFS-20325] c 28 N71-27095

Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter

[NASA-CASE-LAR-12881-1] c 27 N84-14323

## SPACE MANUFACTURING

Material suspension within an acoustically excited resonant chamber --- at near weightless conditions

[NASA-CASE-NPO-13263-1] c 12 N75-24774

Method for manufacturing mirrors in zero gravity environment

[NASA-CASE-MSC-12611-1] c 12 N76-15189

Apparatus for assembling space structure

[NASA-CASE-MFS-23579-1] c 18 N79-11108

Structural members, method and apparatus

[NASA-CASE-MSC-16217-1] c 31 N81-27323

Low gravity exothermic heating/cooling apparatus

[NASA-CASE-MSC-25707-1] c 35 N85-29214

## SPACE MISSIONS

Method of planetary atmospheric investigation using a split-trajectory dual flyby mode Patent

[NASA-CASE-XAC-08494] c 30 N71-15990

Deep space monitor communication satellite system

Patent

[NASA-CASE-XAC-06029-1] c 31 N71-24813

A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth

[NASA-CASE-MSC-12391] c 30 N73-12884

## SPACE NAVIGATION

Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems

Patent

[NASA-CASE-XMF-00684] c 21 N71-21688

Dual purpose momentum wheels for spacecraft with magnetic recording

[NASA-CASE-NPO-11481] c 21 N73-13644

Star tracking reticles and process for the production thereof

[NASA-CASE-GSC-11188-2] c 21 N73-19630

## SPACE ORIENTATION

Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent

[NASA-CASE-XGS-00466] c 21 N70-34297

## SPACE PLATFORMS

Joint for deployable structures

[NASA-CASE-NPO-16038-1] c 37 N86-19605

Mobile remote manipulator vehicle system

[NASA-CASE-LAR-13393-1] c 54 N87-29118

Expandable pallet for space station interface attachments

[NASA-CASE-MSC-21117-1] c 18 N88-28958

## SPACE POWER REACTORS

Coaxial tube tether/transmission line for manned nuclear space power

[NASA-CASE-LEW-14338-1] c 20 N87-10174

## SPACE PROBES

Space probe/satellite ejection apparatus for spacecraft

[NASA-CASE-MFS-15429-1] c 18 N84-22609

## SPACE PROCESSING

Exothermic furnace module

[NASA-CASE-MFS-25707-1] c 35 N82-26631

High gradient directional solidification furnace

[NASA-CASE-MFS-25963-1] c 35 N86-20750

Infusion extractor

[NASA-CASE-MSC-20761-1] c 37 N87-15465

Space ultra-vacuum facility and method of operation

[NASA-CASE-MFS-28139-1] c 29 N87-18679

Sample levitation and melt in microgravity

[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489

Method of dispensing reagent chemicals in space

[NASA-CASE-LAR-13607-1-CU] c 29 N88-29048

## SPACE RENDEZVOUS

Method and apparatus for securing to a spacecraft

Patent

[NASA-CASE-MFS-11133] c 31 N71-16222

Apparatus for releasably connecting first and second objects in predetermined space relationship

[NASA-CASE-MSC-18969-1] c 18 N84-22605

Rotatable electric cable connecting system

[NASA-CASE-GSC-12899-1] c 33 N86-20669

## SPACE SHUTTLE BOOSTERS

Space Shuttle with rail system and aft thrust structure

securing solid rocket boosters to external tank

[NASA-CASE-MFS-25853-1] c 16 N84-27784

## SPACE SHUTTLE ORBITERS

Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters

[NASA-CASE-MSC-18422-1] c 37 N82-16408

CAM controlled retractable door latch

[NASA-CASE-MSC-20304-1] c 37 N82-31690

High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding

[NASA-CASE-ARC-11164-1] c 44 N83-34448



## SPACE SHUTTLES

- Flight craft Patent  
[NASA-CASE-XAC-02058] c 02 N71-16087
- A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth  
[NASA-CASE-MS-12391] c 30 N73-12884
- Space shuttle vehicle and system  
[NASA-CASE-MS-12433] c 31 N73-14854
- Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MS-14245-1] c 18 N75-27041
- Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c 27 N76-16229
- Device for coupling a first vehicle to a second vehicle  
[NASA-CASE-GSC-12429-1] c 37 N81-14320
- System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724
- Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519
- Adjustable high emittance gap filler --- reentry shielding for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339
- Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991
- Slide release mechanism --- for space shuttle orbiter/external tank connection device  
[NASA-CASE-MS-20080-1] c 37 N85-30334
- Preloaded brake disc  
[NASA-CASE-MS-21132-1] c 37 N88-29181
- Emergency egress fixed rocket package  
[NASA-CASE-MS-21332-1] c 03 N89-11724

## SPACE SIMULATORS

- Space simulator Patent  
[NASA-CASE-XNP-00459] c 11 N70-38675
- Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674
- Space simulation and radiative property testing system and method Patent  
[NASA-CASE-MFS-20096] c 14 N71-30026
- Biocentrifuge system capable of exchanging specimen cages while in operational mode  
[NASA-CASE-MFS-23825-1] c 51 N81-32829

## SPACE STATION POWER SUPPLIES

- Coaxial tube tether/transmission line for manned nuclear space power  
[NASA-CASE-LEW-14338-1] c 20 N87-10174

## SPACE STATION STRUCTURES

- Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MS-20985-1] c 18 N88-26398

## SPACE STATIONS

- Manned space station Patent  
[NASA-CASE-XLA-00259] c 31 N70-38676
- Radial module space station Patent  
[NASA-CASE-XMS-01906] c 31 N70-41373
- Serpentuator Patent  
[NASA-CASE-XMF-05344] c 31 N71-16345
- Space manufacturing machine Patent  
[NASA-CASE-MFS-20410] c 15 N71-19214
- Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c 35 N75-33367
- Multiple in-line docking capability for rotating space stations  
[NASA-CASE-MFS-20855-1] c 15 N77-10112
- Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612
- Shuttle-launch triangular space station  
[NASA-CASE-MS-20676-1] c 18 N86-24729
- Vapor fragrancier  
[NASA-CASE-LAR-13680-1] c 35 N87-25561
- Locking hinge  
[NASA-CASE-MS-21056-1] c 18 N88-23827
- Expandable pallet for space station interface attachments  
[NASA-CASE-MS-21117-1] c 18 N88-28958
- Collet lock joint for space station truss  
[NASA-CASE-MS-21207-1] c 37 N88-29180
- Space station erectable manipulator placement system  
[NASA CASE MSC 21096 1] c 19 N89 12621
- Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786

## SPACE STORAGE

- Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991

## SPACE SUITS

- Universal pilot restraint suit and body support therefor Patent  
[NASA-CASE-XAC-00405] c 05 N70-41819

- Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194
- Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195
- Biological isolation garment Patent  
[NASA-CASE-MS-12206-1] c 05 N71-17599
- Space environmental work simulator Patent  
[NASA-CASE-XMF-07488] c 11 N71-18773
- Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439
- G conditioning suit Patent  
[NASA-CASE-XLA-02898] c 05 N71-20268
- Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161
- Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23256
- Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MS-12109] c 18 N71-26285
- Venting device for pressurized space suit helmet Patent  
[NASA-CASE-XMS-09652-1] c 05 N71-26333
- Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
[NASA-CASE-MS-13917-1] c 05 N72-15098
- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332] c 05 N72-20097
- Space suit having improved waist and torso movement  
[NASA-CASE-ARC-10275-1] c 05 N72-22092
- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c 05 N73-25125
- Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c 05 N73-26071
- Space suit  
[NASA-CASE-MS-12609-1] c 05 N73-32012
- Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MS-14331-1] c 27 N76-24405
- Protective garment ventilation system  
[NASA-CASE-XMS-04928] c 54 N78-17679
- Emergency space-suit helmet  
[NASA-CASE-MS-10954-1] c 54 N78-18761
- Spacesuit mobility joints  
[NASA-CASE-ARC-11058-1] c 54 N78-31735
- Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736
- Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721
- Spacesuit mobility knee joints  
[NASA-CASE-ARC-11058-2] c 54 N79-24651
- Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MS-18223-1] c 24 N82-29362
- Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618
- Elbow and knee joint for hard space suits  
[NASA-CASE-ARC-11610-1] c 54 N86-28619
- Shoulder and hip joint for hard space suits  
[NASA-CASE-ARC-11543-1] c 54 N86-28620
- Shoulder and hip joints for hard space suits and the like  
[NASA-CASE-ARC-11534-1] c 54 N86-29507
- Weightlessness simulation system and process  
[NASA-CASE-ARC-11646-1] c 14 N87-25344
- Tapered, tubular polyester fabric  
[NASA-CASE-MS-21082-1] c 27 N87-29672
- Hazards protection for space suits and spacecraft  
[NASA-CASE-MS-21366-1] c 54 N89-12206
- Don/doff support stand for use with rear entry space suits  
[NASA-CASE-MS-21364-1] c 54 N89-13889

## SPACE TOOLS

- Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718

## SPACE TRANSPORTATION SYSTEM

- Coupling device for moving vehicles  
[NASA-CASE-GSC-12322-1] c 37 N80-14398
- Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787

## SPACE VEHICLE CHECKOUT PROGRAM

- Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604
- Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566
- High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588

## SPACEBORNE EXPERIMENTS

- Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679

## SPACEBORNE TELESCOPES

- Anastigmatic three-mirror telescope  
[NASA-CASE-MFS-23675-1] c 89 N79-10969

- Cooled echelle grating spectrometer --- for space telescope applications  
[NASA-CASE-NPO-14372-1] c 35 N80-26635
- Extended range X-ray telescope  
[NASA-CASE-MFS-25282-1] c 34 N83-19015
- Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248
- Spectral slicing X-ray telescope with variable magnification  
[NASA-CASE-MFS-25942-1] c 74 N86-20124
- Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333

## SPACECRAFT

- Interconnection of solar cells Patent  
[NASA-CASE-XGS-01475] c 03 N71-11058
- Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880
- Solar cell and circuit array and process for nullifying magnetic fields Patent  
[NASA-CASE-XGS-03390] c 03 N71-23187
- High efficiency ionizer assembly Patent  
[NASA-CASE-XNP-01954] c 28 N71-28850
- Altitude simulation chamber for rocket engine testing  
[NASA-CASE-MFS-20620] c 11 N72-27262
- Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609

## SPACECRAFT ANTENNAS

- Parasitic probe antenna Patent  
[NASA-CASE-XKS-09348] c 09 N71-13521
- Millimeter wave antenna system Patent Application  
[NASA-CASE-GSC-10949-1] c 07 N71-28965
- Integrated thermoelectric generator/space antenna combination  
[NASA-CASE-XER-09521] c 09 N72-12136
- Omnidirectional slot antenna for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c 09 N72-25247
- Singly-curved reflector for use in high-gain antennas  
[NASA-CASE-NPO-11361] c 07 N72-32169
- Collapsible structure for an antenna reflector  
[NASA-CASE-NPO-11751] c 07 N73-24176
- Multi-channel rotating optical interface for data transmission  
[NASA-CASE-NPO-14066-1] c 74 N79-34011
- Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183
- Spiral slotted phased antenna array  
[NASA-CASE-MSC-18532-1] c 32 N82-27558

## SPACECRAFT CABIN ATMOSPHERES

- Thermal control wall panel Patent  
[NASA-CASE-XLA-01243] c 33 N71-22792
- Nonflammable coating compositions --- for use in high oxygen environments  
[NASA-CASE-MFS-20486-2] c 27 N74-17283
- Regenerable device for scrubbing breathable air of CO2 and moisture without special heat exchanger equipment  
[NASA-CASE-MS-14771-1] c 54 N77-32722

## SPACECRAFT COMMUNICATION

- Time division multiplex system  
[NASA-CASE-XGS-05918] c 07 N69-39974
- Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent  
[NASA-CASE-XNP-00911] c 08 N70-41961
- Tracking receiver Patent  
[NASA-CASE-XGS-08679] c 10 N71-21473
- Omnidirectional microwave spacecraft antenna Patent  
[NASA-CASE-XLA-03114] c 09 N71-22888
- VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614
- Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577
- Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c 32 N74-20864
- Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472
- Antenna feed system for receiving circular polarization and transmitting linear polarization  
[NASA-CASE-NPO-14362-1] c 32 N80-16261
- Common data buffer system --- communication with computational equipment utilized in spacecraft operations  
[NASA-CASE-KSC-11048-1] c 62 N81-24779
- Apparatus and method for determining the position of a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341
- Measurement apparatus and procedure for the determination of surface emissivities  
[NASA-CASE-LAR-13455-1] c 32 N87-21206
- Reed-Solomon decoder  
[NASA-CASE-NPO-15982-1] c 60 N87-21591

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Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c 09 N70-20737

Vibration damping system Patent  
[NASA-CASE-XMS-01620] c 23 N71-15673

Intermittent type silica gel adsorption refrigerator Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906

Omni-directional anisotropic molecular trap Patent  
[NASA-CASE-XGS-00783] c 30 N71-17788

Spacecraft airlock Patent  
[NASA-CASE-XLA-02050] c 31 N71-22968

Docking structure for spacecraft Patent  
[NASA-CASE-XMF-05941] c 31 N71-23912

Redundant actuating mechanism Patent  
[NASA-CASE-XGS-08718] c 15 N71-24600

Space simulator Patent  
[NASA-CASE-NPO-10141] c 11 N71-24964

Spacecraft Patent  
[NASA-CASE-MSC-13047-1] c 31 N71-25434

Peak acceleration limiter for vibrational tester Patent  
[NASA-CASE-NPO-10556] c 14 N71-27185

Solid state thermal control polymer coating Patent  
[NASA-CASE-XLA-01745] c 33 N71-28903

Scientific experiment flexible mount  
[NASA-CASE-MSC-12372-1] c 31 N72-25842

Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136

Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft  
[NASA-CASE-MFS-21680-1] c 18 N74-27397

Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c 18 N75-27041

High temperature penetrator assembly with bayonet plug and ramp-activated lock  
[NASA-CASE-MSC-18526-1] c 37 N82-24494

Apparatus for releasably connecting first and second objects in predetermined space relationship  
[NASA-CASE-MSC-18969-1] c 18 N84-22605

Aerospace vehicle  
[NASA-CASE-LAR-13155-1] c 05 N86-19310

**SPACECRAFT CONFIGURATIONS**

Inflatable honeycomb Patent  
[NASA-CASE-XLA-00204] c 32 N70-36536

Space and atmospheric reentry vehicle Patent  
[NASA-CASE-XGS-00260] c 31 N70-37924

Spacecraft separation system for spinning vehicles and/or payloads Patent  
[NASA-CASE-XLA-02132] c 31 N71-10582

Space shuttle vehicle and system  
[NASA-CASE-MSC-12433] c 31 N73-14854

Space vehicle  
[NASA-CASE-MFS-22734-1] c 18 N75-19329

Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612

Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784

**SPACECRAFT CONSTRUCTION MATERIALS**

Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996

Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747

Method of making a composite sandwich lattice structure  
[NASA-CASE-LAR-11898-2] c 24 N78-17149

Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736

Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N88-24753

**SPACECRAFT CONTROL**

Light sensitive digital aspect sensor Patent  
[NASA-CASE-XGS-00359] c 14 N70-34158

Space vehicle attitude control Patent  
[NASA-CASE-XNP-00465] c 21 N70-35395

Parachute glider Patent  
[NASA-CASE-XLA-00898] c 02 N70-36804

Attitude control for spacecraft Patent  
[NASA-CASE-XNP-00294] c 21 N70-36938

Attitude orientation of spin-stabilized space vehicles Patent  
[NASA-CASE-XLA-00281] c 21 N70-36943

Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c 31 N70-41631

Roll attitude star sensor system Patent  
[NASA-CASE-XNP-01307] c 21 N70-41856

Canopus detector including automotive gain control of photomultiplier tube Patent  
[NASA-CASE-XNP-03914] c 21 N71-10771

Spacecraft experiment pointing and attitude control system Patent  
[NASA-CASE-XLA-05464] c 21 N71-14132

Attitude control system Patent  
[NASA-CASE-XGS-04393] c 21 N71-14159

Reactance control system Patent  
[NASA-CASE-XMF-01598] c 21 N71-15583

Spacecraft attitude detection system by stellar reference Patent  
[NASA-CASE-XGS-03431] c 21 N71-15642

Inertial reference apparatus Patent  
[NASA-CASE-XAC-03107] c 23 N71-16098

Construction and method of arranging a plurality of ion engines to form a cluster Patent  
[NASA-CASE-XNP-02923] c 28 N71-23081

Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173

Heated porous plug microthruster  
[NASA-CASE-GSC-10640-1] c 28 N72-18766

Flight control system  
[NASA-CASE-MSC-13397-1] c 21 N72-25595

All sky pointing attitude control system  
[NASA-CASE-ARC-10716-1] c 35 N77-20399

Propulsion apparatus and method using boil-off gas from a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368

Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808

**SPACECRAFT DESIGN**

Lunar landing flight research vehicle Patent  
[NASA-CASE-XFR-00929] c 31 N70-34966

Space capsule Patent  
[NASA-CASE-XLA-01332] c 31 N71-15664

Spacecraft radiator cover Patent  
[NASA-CASE-MSC-12049] c 31 N71-16080

Method and apparatus for securing to a spacecraft Patent  
[NASA-CASE-MFS-11133] c 31 N71-16222

Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679

Self supporting space vehicle Patent  
[NASA-CASE-XLA-00117] c 31 N71-17680

Multi-mission module Patent  
[NASA-CASE-XMF-01543] c 31 N71-17730

Docking structure for spacecraft Patent  
[NASA-CASE-XMF-05941] c 31 N71-23912

Spacecraft Patent  
[NASA-CASE-MSC-13047-1] c 31 N71-25434

Emergency earth orbital escape device  
[NASA-CASE-MSC-13281] c 31 N72-18859

Space vehicle  
[NASA-CASE-MFS-22734-1] c 18 N75-19329

Space vehicle system  
[NASA-CASE-MSC-12561-1] c 18 N76-17185

Method and apparatus for neutralizing potentials induced on spacecraft surfaces  
[NASA-CASE-GSC-11963-1] c 33 N77-10429

Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612

Aerospace vehicle  
[NASA-CASE-LAR-13155-1] c 05 N86-19310

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Expanding center probe and drogue Patent  
[NASA-CASE-XMS-03613] c 31 N71-16346

Docking structure for spacecraft Patent  
[NASA-CASE-XMF-05941] c 31 N71-23912

Latching mechanism Patent  
[NASA-CASE-MSC-15474-1] c 15 N71-26162

Docking structure for spacecraft  
[NASA-CASE-MFS-20863] c 31 N73-26876

Latch mechanism  
[NASA-CASE-MSC-12549-1] c 37 N74-27903

Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c 18 N76-14186

Multiple in-line docking capability for rotating space stations  
[NASA-CASE-MFS-20855-1] c 15 N77-10112

Combined docking and grasping device  
[NASA-CASE-MFS-23088-1] c 37 N77-23483

Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519

Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303

Apparatus for releasably connecting first and second objects in predetermined space relationship  
[NASA-CASE-MSC-18969-1] c 18 N84-22605

Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612

Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669

Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582

Range and range rate system  
[NASA-CASE-MSC-20867-1] c 36 N88-24958

**SPACECRAFT ELECTRONIC EQUIPMENT**

Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391

Vacuum deposition apparatus Patent  
[NASA-CASE-XMF-01667] c 15 N71-17647

Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984

Electrical self-aligning connector --- orbital servicer vehicles  
[NASA-CASE-MFS-25211-2] c 33 N84-14423

Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612

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Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203

Quick disconnect latch and handle combination Patent  
[NASA-CASE-MFS-11132] c 15 N71-17649

Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725

Dual stage check valve  
[NASA-CASE-MSC-13587-1] c 15 N73-30459

Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MFS-21163-1] c 54 N74-17853

Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356

**SPACECRAFT EQUIPMENT**

Four-terminal electrical testing device --- initiator bridgeway resistance  
[NASA-CASE-MSC-21166-1] c 35 N87-25555

Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

Range and range rate system  
[NASA-CASE-MSC-20867-1] c 36 N88-24958

Surface Tension Confined Liquid Cryogen Cooler (STCLCC)  
[NASA-CASE-GSC-13112-1] c 31 N88-29050

Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

**SPACECRAFT GUIDANCE**

Ejection unit Patent  
[NASA-CASE-XNP-00676] c 15 N70-38996

Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent  
[NASA-CASE-XMF-00684] c 21 N71-21688

Solar vane actuator Patent  
[NASA-CASE-XNP-05535] c 14 N71-23040

Azimuth laying system Patent  
[NASA-CASE-XMF-01669] c 21 N71-23289

Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c 15 N71-26243

Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376

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[NASA-CASE-XNP-00614] c 14 N70-36907

Air bearing Patent  
[NASA-CASE-XMF-00339] c 15 N70-39896

Folding boom assembly Patent  
[NASA-CASE-XGS-00938] c 32 N70-41367

Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996

Guidance and maneuver analyzer Patent  
[NASA-CASE-XNP-09572] c 14 N71-15621

Clamping assembly for inertial components Patent  
[NASA-CASE-XMS-02184] c 15 N71-20813

Optical projector system Patent  
[NASA-CASE-XNP-03853] c 23 N71-21882

Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268

Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118

Spacecraft attitude control method and apparatus  
[NASA-CASE-HQN-10439] c 21 N72-21624

Pump for delivering heated fluids  
[NASA-CASE-NPO-11417] c 15 N73-24513

Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c 35 N74-21062

Distributed-switch Dicke radiometers  
[NASA-CASE-GSC-12219-1] c 35 N80-18359

Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297

Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574

Vibration isolation and pressure compensation apparatus for sensitive instrumentation  
[NASA-CASE-LAR-12728-1] c 35 N83-32026

Optical system  
[NASA-CASE-NPO-15801-1] c 74 N85-23396

Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983

**SPACECRAFT LANDING**

Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c 15 N70-34861

Foam generator Patent  
[NASA-CASE-XLA-00838] c 03 N70-36778

Discrete local altitude sensing device Patent  
[NASA-CASE-XMS-03792] c 14 N70-41812

**SPACECRAFT LAUNCHING**

Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694

Disconnect unit  
[NASA-CASE-NPO-11330] c 33 N73-26958

**SPACECRAFT MODELS**

Apparatus for measuring electric field strength on the surface of a model vehicle Patent  
[NASA-CASE-XLE-02038] c 09 N71-16086

**SPACECRAFT MODULES**

Radial module space station Patent  
[NASA-CASE-XMS-01906] c 31 N70-41373

Multi-mission module Patent  
[NASA-CASE-XMF-01543] c 31 N71-17730

Spacecraft Patent  
[NASA-CASE-MSC-13047-1] c 31 N71-25434

Thermal control system for a spacecraft modular housing  
[NASA-CASE-GSC-11018-1] c 31 N73-30829

**SPACECRAFT MOTION**

Magnetic suspension and pointing system --- on a carrier vehicle  
[NASA-CASE-LAR-11889-1] c 35 N79-26372

**SPACECRAFT POSITION INDICATORS**

Device for determining relative angular position between a spacecraft and a radiation emitting celestial body  
[NASA-CASE-GSC-11444-1] c 14 N73-28490

Spacecraft attitude sensor  
[NASA-CASE-GSC-10890-1] c 21 N73-30640

**SPACECRAFT POWER SUPPLIES**

Spacecraft battery seals  
[NASA-CASE-XGS-03864] c 15 N69-24320

Space vehicle electrical system Patent  
[NASA-CASE-XMF-00517] c 03 N70-34157

Ionospheric battery Patent  
[NASA-CASE-XGS-01593] c 03 N70-35408

Generator for a space power system Patent  
[NASA-CASE-XLE-04250] c 09 N71-20446

Monostable multivibrator  
[NASA-CASE-GSC-10082-1] c 10 N72-20221

Stacked solar cell arrays  
[NASA-CASE-NPO-11771] c 03 N73-20040

Thermoelectric power system --- for spacecraft  
[NASA-CASE-MFS-22002-1] c 44 N76-16612

Solar energy power system  
[NASA-CASE-MFS-21628-2] c 44 N76-23675

Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254

Linear magnetic motor/generator --- to generate electric energy using magnetic flux for spacecraft power supply  
[NASA-CASE-GSC-12518-1] c 33 N82-24421

Solar driven liquid metal MHD power generator  
[NASA-CASE-LAR-12495-1] c 44 N83-28573

Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669

Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744

Coaxial tube tether/transmission line for manned nuclear space power  
[NASA-CASE-LEW-14338-1] c 20 N87-10174

Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410

Arctet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939

**SPACECRAFT PROPULSION**

Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c 28 N70-33265

Trajectory-correction propulsion system Patent  
[NASA-CASE-XNP-01104] c 28 N70-39931

Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293

Voice operated controller Patent  
[NASA-CASE-XLA-04063] c 31 N71-33160

Solid propellant motor  
[NASA-CASE-NPO-11458A] c 20 N78-32179

General purpose rocket furnace  
[NASA-CASE-MFS-23460-1] c 12 N79-26075

Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364

**SPACECRAFT RADIATORS**

Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523

Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461

Radiative cooler --- spacecraft radiators  
[NASA-CASE-NPO-15465-1] c 34 N84-22903

Multi-leg heat pipe evaporator  
[NASA-CASE-MSC-20812-1] c 34 N86-27593

Space vehicle thermal rejection system  
[NASA-CASE-LAR-13738-1] c 18 N87-29586

Gas particle radiator  
[NASA-CASE-LEW-14297-1] c 35 N89-12048

Liquid sheet radiator apparatus  
[NASA-CASE-LEW-14295-1] c 31 N89-14348

**SPACECRAFT RECOVERY**

Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410

Wing deployment method and apparatus Patent  
[NASA-CASE-XMS-00907] c 02 N70-41630

Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303

Apparatus and method of capturing an orbiting spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985

**SPACECRAFT REENTRY**

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[NASA-CASE-XLA-00149] c 31 N70-37938

Event recorder Patent  
[NASA-CASE-XLA-01832] c 14 N71-21006

Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628

**SPACECRAFT SHIELDING**

Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679

Isothermal cover with thermal reservoirs Patent  
[NASA-CASE-MFS-20355] c 33 N71-25353

Stabilized zinc oxide coating compositions Patent  
[NASA-CASE-XMF-07770-2] c 18 N71-26772

Electrically conductive thermal control coatings  
[NASA-CASE-GSC-12207-1] c 24 N79-14156

Thermal insulation protection means  
[NASA-CASE-MSC-12737-1] c 24 N79-25142

Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363

High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448

Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449

Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886

Mechanical fastener  
[NASA-CASE-LAR-12738-2] c 37 N85-30335

**SPACECRAFT STABILITY**

Reaction wheel scanner Patent  
[NASA-CASE-XGS-02629] c 14 N71-21082

Attitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089

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[NASA-CASE-LAR-11051-1] c 15 N76-14158

Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119

Active nutation controller  
[NASA-CASE-GSC-12273-1] c 35 N80-21719

Method of damping nutation motion with minimum spin axis attitude disturbance  
[NASA-CASE-GSC-12551-1] c 18 N83-28064

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[NASA-CASE-XMF-00437] c 07 N70-40202

Electro-optical alignment control system Patent  
[NASA-CASE-XMF-00908] c 14 N70-40238

Spacecraft radiator cover Patent  
[NASA-CASE-MSC-12049] c 31 N71-16080

Satellite appendage tie down cord Patent  
[NASA-CASE-XGS-02554] c 31 N71-21064

Thermal control panel Patent  
[NASA-CASE-XLA-07728] c 33 N71-22890

Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936

Delayed simultaneous release mechanism  
[NASA-CASE-GSC-10814-1] c 03 N73-20039

Pressurized panel  
[NASA-CASE-XLA-08916-2] c 14 N73-28487

Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c 34 N75-12222

Auger attachment method for insulation --- of spacecraft  
[NASA-CASE-MSC-12615-1] c 37 N76-19437

Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-LAR-10805-2] c 34 N77-18382

Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718

Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450

Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349

**SPACECRAFT TELEVISION**

Electrically-operated rotary shutter Patent  
[NASA-CASE-XNP-00637] c 14 N70-40273

Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300

Optical conversion method --- for spacecraft television  
[NASA-CASE-MSC-12618-1] c 74 N78-17865

**SPACECRAFT TEMPERATURE**

Space vehicle thermal rejection system  
[NASA-CASE-LAR-13738-1] c 18 N87-29586

Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

**SPACECRAFT TRACKING**

Ranging system Patent  
[NASA-CASE-NPO-10066] c 09 N71-18598

Deep space monitor communication satellite system Patent  
[NASA-CASE-XAC-06029-1] c 31 N71-24813

Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627

Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015

Conical scan tracking system employing a large antenna  
[NASA-CASE-NPO-14009-1] c 32 N79-13214

**SPACECREWS**

Orbital escape device Patent  
[NASA-CASE-XMS-06162] c 31 N71-28851

**SPACELAB PAYLOADS**

Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991

**SPALLATION**

Method of producing I-123 --- by bombardment of cesium causing spallation  
[NASA-CASE-LEW-11390-2] c 25 N76-27383

**SPARK CHAMBERS**

Laser measuring system for incremental assemblies --- measuring wire-wrapped frame assemblies in spark chambers  
[NASA-CASE-GSC-12321-1] c 36 N82-16396

Inorganic spark chamber frame and method of making the same  
[NASA-CASE-GSC-12354-1] c 35 N82-24471

**SPARK GAPS**

Protective circuit of the spark gap type  
[NASA-CASE-XAC-08981] c 09 N69-39897

Measurement of time differences between luminous events Patent  
[NASA-CASE-XLA-01987] c 23 N71-23976

**SPARK IGNITION**

High temperature spark plug Patent  
[NASA-CASE-XLE-00660] c 28 N70-39925

Plasma igniter for internal combustion engine  
[NASA-CASE-NPO-13828-1] c 37 N79-11405

**SPARK PLUGS**

High temperature spark plug Patent  
[NASA-CASE-XLE-00660] c 28 N70-39925

**SPATIAL DISTRIBUTION**

Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339

**SPATIAL FILTERING**

Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c 36 N77-32478

Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301

**SPATIAL RESOLUTION**

Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732

**SPECIMENS**

Method of radiographic inspection of wooden members  
[NASA-CASE-LAR-13724-1] c 38 N88-23983

Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817

**SPECKLE PATTERNS**

Method and apparatus for reducing speckle  
[NASA-CASE-LAR-13771-1] c 36 N89-14428

**SPECTRAL BANDS**

Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650

**SPECTRAL CORRELATION**

Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705

**SPECTRAL REFLECTANCE**

Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c 35 N74-23040

**SPECTRAL SENSITIVITY**

Method and apparatus for enhancing laser absorption sensitivity  
[NASA-CASE-NPO-16567-1-CU] c 36 N87-28006

**SPECTRAL SIGNATURES**

Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288

**SPECTROMETERS**

Photoelectric energy spectrometer Patent  
[NASA-CASE-XNP-04161] c 14 N71-15599

Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266

Maksutov spectrograph Patent  
[NASA-CASE-XLA-10402] c 14 N71-29041

Dual purpose optical instrument capable of simultaneously acting as spectrometer and diffractometer  
[NASA-CASE-XNP-05231] c 14 N73-28491

Compton scatter attenuation gamma ray spectrometer  
[NASA-CASE-MFS-21441-1] c 14 N73-30392

Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c 35 N74-15091

Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c 35 N74-23040

Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c 35 N75-19613

Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c 33 N75-26245

Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c 35 N77-10492

Frequency-scanning particle size spectrometer  
[NASA-CASE-NPO-13606-2] c 35 N80-18364

Velocity servo for continuous scan Fourier interference spectrometer  
[NASA-CASE-NPO-14093-1] c 35 N80-20563

Visible and infrared polarization ratio spectrophotometer  
[NASA-CASE-LAR-12285-1] c 35 N80-28687

Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766

Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705

FET charge sensor and voltage probe  
[NASA-CASE-NPO-16045-1] c 76 N87-13313

Method of fabricating an imaging X-ray spectrometer  
[NASA-CASE-GSC-12956-1] c 35 N87-14671

**SPECTROPHOTOMETERS**

Apparatus for producing three-dimensional recordings of fluorescence spectra Patent  
[NASA-CASE-XGS-01231] c 14 N70-41676

High resolution Fourier interferometer-spectrophotopolarimeter  
[NASA-CASE-NPO-13604-1] c 35 N76-31490

Differential optoacoustic absorption detector  
[NASA-CASE-NPO-13759-1] c 74 N78-17867

**SPECTRORADIOMETERS**

Compact spectroradiometer  
[NASA-CASE-HQN-10683] c 14 N71-34389

**SPECTROSCOPIC ANALYSIS**

Spectroscope equipment using a slender cylindrical reflector as a substitute for a slit Patent  
[NASA-CASE-XGS-08269] c 23 N71-26206

Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119

**SPECTRUM ANALYSIS**

Photoelectric energy spectrometer Patent  
[NASA-CASE-XNP-04161] c 14 N71-15599

Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871

Method and apparatus for high resolution spectral analysis  
[NASA-CASE-NPO-10748] c 08 N72-20177

Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015

**SPECTULAR REFLECTION**

Real time reflectometer --- measurement of specular reflectance  
[NASA-CASE-MFS-23118-1] c 35 N77-31465

**SPEECH BASEBAND COMPRESSION**

Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348

**SPEECH RECOGNITION**

Speech analyzer  
[NASA-CASE-GSC-11898-1] c 32 N77-30309

**SPEED CONTROL**

System for maintaining a motor at a predetermined speed utilizing digital feedback means Patent  
[NASA-CASE-XMF-06892] c 09 N71-24805

Optimal control system for an electric motor driven vehicle  
[NASA-CASE-NPO-11210] c 11 N72-20244

Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MFS-20645-1] c 37 N74-23070

Low speed phaselock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c 09 N75-24758

Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364

Variable speed drive  
[NASA-CASE-GSC-12643-1] c 37 N83-26078

**SPEED INDICATORS**

Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295

**SPEED REGULATORS**

A dc motor speed control system Patent  
[NASA-CASE-MFS-14610] c 09 N71-28886

**SPHERES**

Guidance and maneuver analyzer Patent  
[NASA-CASE-XNP-09572] c 14 N71-15621

Radar calibration sphere  
[NASA-CASE-XLA-11154] c 07 N72-21117

Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442

Sphere forming method and apparatus  
[NASA-CASE-NPO-15070-1] c 31 N83-35176

Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940

**SPHERICAL SHELLS**

Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c 09 N69-21542

Spherical measurement device  
[NASA-CASE-XLA-06863] c 14 N72-28436

Method and apparatus for growing crystals  
[NASA-CASE-MFS-28137-1] c 76 N88-24544

Multi-element spherical shell generation  
[NASA-CASE-NPO-17203-1-CU] c 34 N89-13728

**SPHERICAL TANKS**

Spherical tank gauge Patent  
[NASA-CASE-XMS-06236] c 14 N71-21007

**SPHERICAL WAVES**

Shock wave convergence apparatus  
[NASA-CASE-MFS-20890] c 14 N72-22439

**SPHYGMOGRAPHY**

Logic-controlled occlusive cuff system  
[NASA-CASE-MSC-14836-1] c 52 N82-11770

**SPIKE NOZZLES**

Aerodynamic spike nozzle Patent  
[NASA-CASE-XGS-01143] c 31 N71-15647

**SPIKE POTENTIALS**

Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393

**SPILLING**

Spillage detector for liquid chromatography systems  
[NASA-CASE-MSC-20206-1] c 25 N86-27431

**SPIN DYNAMICS**

Nutation damper  
[NASA-CASE-GSC-11205-1] c 15 N73-25513

Stabilization of He2(a 3 Sigma u+) molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826

Dual towline spin-recovery device  
[NASA-CASE-LAR-13078-1] c 08 N85-35200

**SPIN REDUCTION**

Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485

Despin weight release Patent  
[NASA-CASE-XLA-00679] c 15 N70-38601

Stretch de-spin mechanism Patent  
[NASA-CASE-XGS-00619] c 30 N70-40016

Spacecraft separation system for spinning vehicles and/or payloads Patent  
[NASA-CASE-XLA-02132] c 31 N71-10582

Method and means for damping nutation in a satellite Patent  
[NASA-CASE-XMF-00442] c 31 N71-10747

**SPIN STABILIZATION**

Dynamic precession damper for spin stabilized vehicles Patent  
[NASA-CASE-XLA-01989] c 21 N70-34295

Attitude orientation of spin-stabilized space vehicles Patent  
[NASA-CASE-XLA-00281] c 21 N70-36943

Spacecraft attitude detection system by stellar reference Patent  
[NASA-CASE-XGS-03431] c 21 N71-15642

Cartwheel satellite synchronization system Patent  
[NASA-CASE-XGS-05579] c 31 N71-15676

Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692

Passive dual spin misalignment compensators --- gyro-stabilized device  
[NASA-CASE-GSC-11479-1] c 35 N74-28097

Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421

Active nutation controller  
[NASA-CASE-GSC-12273-1] c 35 N80-21719

Thrust augmented spin recovery device  
[NASA-CASE-LAR-11970-2] c 08 N81-19130

Scanner --- photography from a spin stabilized synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465

**SPINDLES**

Variable contour securing system  
[NASA-CASE-MSC-16270-1] c 37 N78-27423

**SPINE**

Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662

**SPIRAL ANTENNAS**

Spiral slotted phased antenna array  
[NASA-CASE-MSC-18532-1] c 32 N82-27558

**SPIRAL WRAPPING**

Adjustable tension wire guide Patent  
[NASA-CASE-XMS-02383] c 15 N71-15918

Continuous self-locking spiral wound seal --- for maintaining pressure between chambers in cryogenic wind tunnels  
[NASA-CASE-LAR-12315-1] c 37 N82-24490

Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091

**SPIRALS (CONCENTRATORS)**

Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c 37 N74-10474

**SPIROMETERS**

Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c 05 N69-21473

**SPlicing**

Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630

**SPLINTS**

Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159

**SPOILERS**

Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205

**SPORES**

Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c 37 N74-13178

**SPOT WELDS**

Electric arc welding Patent  
[NASA-CASE-XMF-00392] c 15 N70-34814

Automatic closed circuit television arc guidance control Patent  
[NASA-CASE-MFS-13046] c 07 N71-19433

**SPRAY CHARACTERISTICS**

Constant-output atomizer --- Inhalation therapy and aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406

**SPRAY NOZZLES**

Rocket injector head  
[NASA-CASE-XMF-04592-1] c 20 N79-21125

Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137

Controlled overspray spray nozzle  
[NASA-CASE-MFS-25139-1] c 34 N82-13376

Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689

**SPRAYED COATINGS**

Method of making a diffusion bonded refractory coating Patent  
[NASA-CASE-XLE-01604-2] c 15 N71-15610

Thermal protection ablation spray system Patent  
[NASA-CASE-XLA-04251] c 18 N71-26100

Peen plating  
[NASA-CASE-GSC-11163-1] c 15 N73-32360

Sprayable low density ablator and application process  
[NASA-CASE-MFS-23506-1] c 24 N78-24290

Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492

Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855

Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283

Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

**SPRAYERS**

External liquid-spray cooling of turbine blades Patent  
[NASA-CASE-XLE-00037] c 28 N70-33372

Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-XFR-07658-1] c 05 N71-26293

Liquid spray cooling method Patent  
[NASA-CASE-XLE-00027] c 33 N71-29152

Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237

Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492

Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N84-32398

Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283

Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255

Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689

**SPRAYING**

Aircraft wheel spray drag alleviator Patent  
[NASA-CASE-XLA-01583] c 02 N70-36825

Closed loop spray cooling apparatus  
[NASA-CASE-LEW-11981-2] c 34 N79-20336

Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588

**SPREAD SPECTRUM TRANSMISSION**

Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546

**SPREADING**

Tool attachment for spreading loose elements away from work Patent  
[NASA-CASE-XMF-02107] c 15 N71-10809

**SPRINGS (ELASTIC)**

Belleville spring assembly with elastic guides  
[NASA-CASE-XNP-09452] c 15 N69-27504

Multiple Belleville spring assembly Patent  
[NASA-CASE-XNP-00840] c 15 N70-38225

Switching mechanism with energy storage means Patent  
[NASA-CASE-XGS-00473] c 03 N70-38713

Load cell protection device Patent  
[NASA-CASE-XMS-06782] c 32 N71-15974

Vibration isolation system using compression springs  
[NASA-CASE-NPO-11012] c 15 N72-11391

Spring operated accelerator and constant force spring mechanism therefor  
[NASA-CASE-ARC-10898-1] c 35 N77-18417

Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834

Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497

Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492

Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

Rotary stepping device with memory metal actuator  
[NASA-CASE-NPO-15482-1] c 37 N87-23970

Locking hinge  
[NASA-CASE-MSC-21056-1] c 18 N88-23827

**SPUTTERING**

A method for the deposition of beta-silicon carbide by isoeptitaxy  
[NASA CASE ERC 10120] c 26 N69 33482

Method of forming transparent films of ZnO  
[NASA-CASE-FRC-10019] c 15 N73-12487

Method and apparatus for sputtering utilizing an aperture electrode and a pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c 17 N73-24569

Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c 20 N74-31269

Multitarget sequential sputtering apparatus  
[NASA-CASE-NPO-13345-1] c 37 N75-19684

Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455

Refractory coatings and method of producing the same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415

Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117

Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170

Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695

Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095

Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565

Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267

Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-1] c 27 N86-19458

Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160

**SQUARE WAVES**

High speed phase detector Patent  
[NASA-CASE-XNP-01306-2] c 09 N71-24596

**SQUARES (MATHEMATICS)**

Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437

**SQUEEZE FILMS**

Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490

**SQUIBS**

Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922

**SQUID (DETECTORS)**

Planar thin film SQUID with integral flux concentrator  
[NASA-CASE-MFS-28282-1] c 76 N88-29602

**STABILITY**

Variable friction secondary seal for face seals  
[NASA-CASE-LEW-14170-1] c 37 N86-25790

Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266

**STABILITY AUGMENTATION**

Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106

Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985

**STABILITY TESTS**

Method and apparatus for checking the stability of a setup for making reflection type holograms  
[NASA-CASE-MFS-21455-1] c 35 N74-15146

**STABILIZATION**

Ultrastable calibrated light source  
[NASA-CASE-MSC-12293-1] c 14 N72-27411

System for stabilizing torque between a balloon and gondola  
[NASA-CASE-GSC-11077-1] c 02 N73-13008

Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004

Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c 76 N75-25730

ARC control in compact arc lamps  
[NASA-CASE-NPO-10870-1] c 33 N77-22386

Self-stabilizing radial face seal  
[NASA-CASE-LEW-12991-1] c 37 N81-24442

Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333

Stabilization and oscillation of an acoustically levitated object  
[NASA-CASE-NPO-16896-1-CU] c 71 N89-13236

**STABILIZED PLATFORMS**

Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658

Failure detection and control means for improved drift performance of a gimbaled platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175

Rotary leveling base platform  
[NASA-CASE-ARC-10981-1] c 37 N78-27425

Magnetic bearing and motor  
[NASA-CASE-GSC-12726-1] c 37 N83-34323

**STABILIZERS**

Satellite despin device Patent  
[NASA-CASE-XMF-08523] c 31 N71-20396

**STABILIZERS (AGENTS)**

Hydrazinium nitroformate propellant stabilized with nitroguanidine  
[NASA-CASE-NPO-12000] c 27 N72-25699

**STABILIZERS (FLUID DYNAMICS)**

Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410

Mechanical stability augmentation system Patent  
[NASA-CASE-XLA-06339] c 02 N71-13422

Apparatus for automatically stabilizing the attitude of a nonguided vehicle  
[NASA-CASE-ARC-10134] c 30 N72-17873

Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c 02 N73-26006

Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c 37 N76-14460

**STABLE OSCILLATIONS**

Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986

**STACKS**

Remote fire stack igniter --- with solenoid-controlled valve  
[NASA-CASE-MFS-21675-1] c 25 N74-33378

**STAGE SEPARATION**

Tubular coupling having frangible connecting means  
[NASA-CASE-XLA-02854] c 15 N69-27490

Missile stage separation indicator and stage initiator Patent  
[NASA-CASE-XLA-00791] c 03 N70-39930

Quick release separation mechanism Patent  
[NASA-CASE-XLA-01441] c 15 N70-41679

Spacecraft separation system for spinning vehicles and/or payloads Patent  
[NASA-CASE-XLA-02132] c 31 N71-10582

Payload/burned-out motor case separation system Patent  
[NASA-CASE-XLA-05369] c 31 N71-15687

Single action separation mechanism Patent  
[NASA-CASE-XLA-00188] c 15 N71-22874

Lateral displacement system for separated rocket stages Patent  
[NASA-CASE-XLA-04804] c 31 N71-23008

Separation simulator Patent  
[NASA-CASE-XKS-04631] c 10 N71-23663

Frangible link  
[NASA-CASE-MSC-11849-1] c 15 N72-22488

Tanker orbit transfer vehicle and method  
[NASA-CASE-MSC-20543-1] c 18 N84-22610

**STAGNATION PRESSURE**

Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692

Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c 35 N74-32878

**STAGNATION TEMPERATURE**

Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
[NASA-CASE-XLE-00266] c 14 N70-34156

**STAINING**

Automated single-slide staining device  
[NASA-CASE-LAR-11649-1] c 51 N77-27677

**STAINLESS STEELS**

Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443

Ultrasonic scanning system for in-place inspection of brazed tube joints  
[NASA-CASE-MFS-20767-1] c 38 N74-15130

Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c 34 N76-27515

Method of making reinforced composite structure  
[NASA-CASE-LEW-12619-1] c 24 N77-19171

Moving body velocity arresting line --- stainless steel cables with energy absorbing sleeves  
[NASA-CASE-LAR-12372-1] c 37 N82-18601

Method of forming dynamic membrane on stainless steel support  
[NASA-CASE-MSC-18172-3] c 31 N88-29052

**STAMPING**

Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491

Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276

**STANDARDS**

Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348

Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276

A reference standard for bidirectional reflection distribution function and bidirectional transmission distribution function measurement  
[NASA-CASE-MFS-28183-1] c 74 N89-13253

**STANDING WAVES**

Method and apparatus for shaping and enhancing acoustical levitation forces  
[NASA-CASE-MFS-25050-1] c 71 N81-15767

- Image readout device with electronically variable spatial resolution  
[NASA-CASE-LAR-12633-1] c 33 N82-24416
- Acoustic levitation methods and apparatus  
[NASA-CASE-NPO-15562-1] c 71 N82-27086
- System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516
- Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752
- STAR TRACKERS**
- Roll attitude star sensor system Patent  
[NASA-CASE-XNP-01307] c 21 N70-41856
- Sun tracker with rotatable plane-parallel plate and two photocells Patent  
[NASA-CASE-XGS-01159] c 21 N71-10678
- Canopus detector including automotive gain control of photomultiplier tube Patent  
[NASA-CASE-XNP-03914] c 21 N71-10771
- Spacecraft attitude detection system by stellar reference Patent  
[NASA-CASE-XGS-03431] c 21 N71-15642
- Reference voltage switching unit  
[NASA-CASE-NPO-11253] c 09 N72-17157
- Star tracking reticles and process for the production thereof  
[NASA-CASE-GSC-11188-2] c 21 N73-19630
- Star tracking reticles  
[NASA-CASE-GSC-11188-1] c 14 N73-32320
- Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c 74 N74-20008
- Star scanner --- with a reticle with a pair of slits having differing separation  
[NASA-CASE-GSC-11569-1] c 89 N74-30886
- Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247
- STARK EFFECT**
- Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c 33 N75-26245
- Stark-effect modulation of CO<sub>2</sub> laser with NH<sub>2</sub>  
[NASA-CASE-NPO-11945-1] c 36 N76-18427
- Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015
- Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159
- STARTERS**
- Starting circuit for vapor lamps and the like Patent  
[NASA-CASE-XNP-01058] c 09 N71-12540
- Motor run-up system --- power lines  
[NASA-CASE-NPO-13374-1] c 33 N75-19524
- Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360
- STARTING**
- Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599
- Arcjet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939
- STATIC DEFORMATION**
- Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653
- STATIC DISCHARGERS**
- Use of glow discharge in fluidized beds  
[NASA-CASE-ARC-11245-1] c 28 N82-18401
- STATIC FRICTION**
- Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995
- Static coefficient test method and apparatus  
[NASA-CASE-GSC-11893-1] c 35 N76-31489
- STATIC INVERTERS**
- Static inverters which sum a plurality of waves Patent  
[NASA-CASE-XMF-00663] c 08 N71-18752
- Static inverter Patent  
[NASA-CASE-XGS-05289] c 09 N71-19470
- STATIC LOADS**
- Instrument for measuring torsional creep and recovery Patent  
[NASA-CASE-XLE-01481] c 14 N71-10781
- Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878
- STATIC PRESSURE**
- Aerodynamic measuring device Patent  
[NASA-CASE-XLA-00481] c 14 N70-36824
- Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c 15 N70-37925
- Static pressure probe  
[NASA-CASE-LAR-11552-1] c 35 N76-14429
- Static pressure orifice system testing method and apparatus  
[NASA-CASE-LAR-12269-1] c 35 N80-18358
- Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873
- Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841
- STATIONKEEPING**
- Station keeping of a gravity gradient stabilized satellite Patent  
[NASA-CASE-XLA-03132] c 31 N71-22969
- STATISTICAL CORRELATION**
- Optical probing of supersonic flows with statistical correlation  
[NASA-CASE-MFS-20642] c 14 N72-21407
- STATOR BLADES**
- Stator rotor tools  
[NASA-CASE-MSC-16000-1] c 37 N78-24544
- STATORS**
- Nickel base alloy --- for gas turbine engine stator vanes  
[NASA-CASE-LEW-12270-1] c 26 N77-32280
- Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834
- Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681
- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788
- Radial and torsionally controlled magnetic bearing  
[NASA-CASE-GSC-12957-1] c 37 N87-17038
- STEADY STATE**
- Steady state thermal radiometers  
[NASA-CASE-MFS-21108-1] c 34 N74-27861
- STEAM**
- Steam cooled rich-burn combustor liner  
[NASA-CASE-LEW-13609-1] c 25 N83-17628
- STEAM TURBINES**
- Boiler for generating high quality vapor Patent  
[NASA-CASE-XLE-00785] c 33 N71-16104
- STEELS**
- Potassium silicate zinc coatings  
[NASA-CASE-GSC-10361-1] c 18 N72-23581
- Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179
- Method and apparatus for non-destructive testing of temper embrittlement in steels  
[NASA-CASE-LAR-13817-1] c 26 N88-29012
- STEERABLE ANTENNAS**
- Array phasing device Patent  
[NASA-CASE-ERC-10046] c 10 N71-18722
- Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900
- Amplitude steered array  
[NASA-CASE-GSC-11446-1] c 33 N74-20860
- Phased array antenna control  
[NASA-CASE-MSC-14939-1] c 32 N79-11264
- Switched steerable multiple beam antenna system  
[NASA-CASE-MSC-20873-1-SB] c 32 N89-11961
- STEERING**
- Steerable solid propellant rocket motor Patent  
[NASA-CASE-XNP-00234] c 28 N70-38645
- STELLAR LUMINOSITY**
- Radiant energy intensity measurement system Patent  
[NASA-CASE-XNP-06510] c 14 N71-23797
- STELLAR SPECTRA**
- Radiant energy intensity measurement system Patent  
[NASA-CASE-XNP-06510] c 14 N71-23797
- STENCIL PROCESSES**
- Method of tracing contour patterns for use in making gradual contour resin matrix composites  
[NASA-CASE-ARC-11246-1] c 31 N83-34073
- STEPPING MOTORS**
- Scanner --- photography from a spin stabilized synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465
- STEREOPHOTOGRAPHY**
- Stereo photomicrography system  
[NASA-CASE-LAR-10176-1] c 14 N72-20380
- Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348
- STEREOSCOPIC VISION**
- Stereoscopic television system and apparatus  
[NASA-CASE-ARC-10160-1] c 23 N72-27728
- Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N88-23924
- STEREOSCOPY**
- Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920
- STERILIZATION**
- Process for preparing sterile solid propellants Patent  
[NASA-CASE-XNP-01749] c 27 N70-41897
- Processing for producing a sterilized instrument Patent  
[NASA-CASE-XNP-09763] c 14 N71-20461
- Air conditioned suit  
[NASA-CASE-LAR-10076-1] c 05 N73-20137
- Protein sterilization method of firefly luciferase using reduced pressure and molecular sieves  
[NASA-CASE-GSC-10225-1] c 06 N73-27086
- Heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c 54 N75-27761
- Portable heatable container  
[NASA-CASE-NPO-14237-1] c 44 N80-20808
- System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724
- STERILIZATION EFFECTS**
- Electrical connector  
[NASA-CASE-NPO-10694] c 09 N72-20200
- STIFFENING**
- Metal matrix composite structural panel construction  
[NASA-CASE-LAR-12807-1] c 24 N84-11214
- STIFFNESS**
- Modified face seal for positive film stiffness  
[NASA-CASE-LEW-12989-1] c 37 N82-12442
- STILBENE**
- Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908
- STIMULATED EMISSION**
- Repetitively pulsed, wavelength selective laser Patent  
[NASA-CASE-ERC-10178] c 16 N71-24832
- STIRLING CYCLE**
- Stirling cycle engine and refrigeration systems  
[NASA-CASE-NPO-13613-1] c 37 N76-29590
- Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-14318
- Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432
- Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518
- Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370
- Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574
- Magnetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404
- STIRLING ENGINES**
- Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432
- Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518
- STIRRING**
- Stirring apparatus for plural test tubes Patent  
[NASA-CASE-XAC-06956] c 15 N71-21177
- Planar oscillatory stirring apparatus  
[NASA-CASE-MFS-26002-1-CU] c 35 N86-26598
- STOICHIOMETRY**
- Sulfone-ester polymers containing pendent ethynyl groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450
- The 5-(4-Ethynylphenoxy) isophthalic chloride  
[NASA-CASE-LAR-13316-2] c 27 N87-14515
- STORAGE**
- Fluid sample collector Patent  
[NASA-CASE-XMS-06767-1] c 14 N71-20435
- Sodium storage and injection system  
[NASA-CASE-NPO-14384-1] c 37 N80-10494
- STORAGE BATTERIES**
- Bonded elastomeric seal for electrochemical cells Patent  
[NASA-CASE-XGS-02631] c 03 N71-23006
- Automatic battery charger Patent  
[NASA-CASE-XNP-04758] c 03 N71-24605
- Electric battery and method for operating same Patent  
[NASA-CASE-XGS-01674] c 03 N71-29129
- Electric storage battery  
[NASA-CASE-NPO-11021] c 03 N72-20032
- Hydrogen-bromine secondary battery  
[NASA-CASE-NPO-12327-1] c 44 N76-18641
- Rechargeable battery which combats shape change of the zinc anode  
[NASA-CASE-HQN-10862-1] c 44 N76-29699
- Electrically rechargeable REDOX flow cell  
[NASA-CASE-LEW-12220-1] c 44 N77-14581
- Formulated plastic separators for soluble electrode cells --- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313
- Toroidal cell and battery --- storage battery for high amp-hour load applications  
[NASA-CASE-LEW-12918-1] c 44 N81-24521
- STORAGE STABILITY**
- Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155
- Gas diffusion liquid storage bag and method of use for storing blood  
[NASA-CASE-NPO-13930-1] c 52 N79-14749



Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432

**STORAGE TANKS**  
Expulsion bladder-equipped storage tank structure Patent  
[NASA-CASE-XNP-00612] c 11 N70-38182  
Method for leakage testing of tanks Patent  
[NASA-CASE-XMF-02392] c 32 N71-24285  
Zero gravity shadow shield aligner  
[NASA-CASE-KSC-10622-1] c 31 N72-21893  
Cryogenic container compound suspension strap  
[NASA-CASE-ARC-11157-1] c 37 N80-18393

**STOWAGE (ONBOARD EQUIPMENT)**  
Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991  
Locking hinge  
[NASA-CASE-MSC-21056-1] c 18 N88-23827  
Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-1] c 18 N88-28958

**STRAIN GAGE ACCELEROMETERS**  
Accelerometer with FM output Patent  
[NASA-CASE-XLA-00492] c 14 N70-34799  
Angular accelerometer Patent  
[NASA-CASE-XMS-05936] c 14 N70-41682

**STRAIN GAGE BALANCES**  
Self-balancing strain gage transducer Patent  
[NASA-CASE-MFS-12827] c 14 N71-17656

**STRAIN GAGES**  
Semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980] c 09 N69-27422  
Wire grid forming apparatus Patent  
[NASA-CASE-XLE-00023] c 15 N70-33330  
Force measuring instrument Patent  
[NASA-CASE-XMF-00456] c 14 N70-34705  
Strain gage Patent Application  
[NASA-CASE-FRC-10053] c 14 N70-35587  
Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537  
Strain sensor for high temperatures Patent  
[NASA-CASE-XNP-09205] c 14 N71-17657  
Extensometer Patent  
[NASA-CASE-XMF-04680] c 15 N71-19489  
Strain gauge measuring techniques Patent  
[NASA-CASE-XGS-04478] c 14 N71-24233  
Method of temperature compensating semiconductor strain gages Patent  
[NASA-CASE-XLA-04555-1] c 14 N71-25892  
Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200  
Method of making semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980-2] c 14 N72-28438  
Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945  
Strain gauge ambiguity sensor for segmented mirror active optical system  
[NASA-CASE-MFS-20506-1] c 35 N75-12273  
Subminiature insertable force transducer --- including a strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329  
Self-supporting strain transducer  
[NASA-CASE-LAR-11263-1] c 35 N75-33369  
Strain gage mounting assembly  
[NASA-CASE-NPO-13170-1] c 35 N76-14430  
High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c 35 N76-24523  
Miniature biaxial strain transducer  
[NASA-CASE-LAR-11648-1] c 35 N77-14407  
CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512  
Attaching of strain gages to substrates  
[NASA-CASE-FRC-10093-1] c 35 N80-20560  
Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400  
Pulsed phase locked loop strain monitor --- voltage controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626  
Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443  
Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015  
Strain gage calibration  
[NASA-CASE-LAR-12743-1] c 35 N84-28019  
Thin film strain transducer --- suitable for in-flight measurement of scientific balloon strain  
[NASA-CASE-WLP-10055-2] c 35 N85-21598  
Method of attaching strain gauges to various materials  
[NASA-CASE-LAR-13797-1] c 35 N88-30108

**STRAIN MEASUREMENT**  
Thin film strain transducer --- suitable for in-flight measurement of scientific balloon strain  
[NASA-CASE-WLP-10055-2] c 35 N85-21598

Radio Frequency (RF) strain monitor  
[NASA-CASE-LAR-13705-1] c 39 N88-25011

**STRAIN RATE**  
Light intensity strain analysis  
[NASA-CASE-LAR-10765-1] c 32 N73-20740  
Strain gage calibration  
[NASA-CASE-LAR-12743-1] c 35 N84-28019

**STRAKES**  
Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400  
Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809  
Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628

**STRAPDOWN INERTIAL GUIDANCE**  
All sky pointing attitude control system  
[NASA-CASE-ARC-10716-1] c 35 N77-20399

**STRAPS**  
Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615  
Cryogenic container compound suspension strap  
[NASA-CASE-ARC-11157-1] c 37 N80-18393

**STRATIGRAPHY**  
System for plotting subsoil structure and method therefor  
[NASA-CASE-NPO-14191-1] c 31 N80-32584

**STREAMS**  
Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c 35 N78-19465

**STRESS ANALYSIS**  
Method and apparatus for measuring the damping characteristics of a structure  
[NASA-CASE-ARC-10154-1] c 14 N72-22440  
Light intensity strain analysis  
[NASA-CASE-LAR-10765-1] c 32 N73-20740  
High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c 35 N76-24523

**STRESS CONCENTRATION**  
Self-supporting strain transducer  
[NASA-CASE-LAR-11263-1] c 35 N75-33369

**STRESS CORROSION**  
Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c 17 N71-16393  
Controlled glass bead peening Patent  
[NASA-CASE-XLA-07390] c 15 N71-18616

**STRESS MEASUREMENT**  
Semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980] c 09 N69-27422  
Force measuring instrument Patent  
[NASA-CASE-XMF-00456] c 14 N70-34705  
Self-balancing strain gage transducer Patent  
[NASA-CASE-MFS-12827] c 14 N71-17656  
Strain coupled servo control system Patent  
[NASA-CASE-XLA-08530] c 32 N71-25360  
Amplifying ribbon extensometer  
[NASA-CASE-LAR-11825-1] c 35 N77-22449  
CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512  
Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653

**STRESS RELAXATION**  
Method for alleviating thermal stress damage in laminates --- metal matrix composites  
[NASA-CASE-LEW-12493-1] c 24 N81-17170

**STRESS RELIEVING**  
All-directional fastener Patent  
[NASA-CASE-XLA-01807] c 15 N71-10799  
Steam cooled rich-burn combustor liner  
[NASA-CASE-LEW-13609-1] c 25 N83-17628

**STRESSES**  
Tape recorder Patent  
[NASA-CASE-XGS-08259] c 14 N71-23698  
Strain gauge measuring techniques Patent  
[NASA-CASE-XGS-04478] c 14 N71-24233  
Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264  
Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081

**STRETCHERS**  
Rescue litter flotation assembly Patent  
[NASA-CASE-XMS-04170] c 05 N71-22745  
Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159

**STRETCHING**  
Fastener stretcher  
[NASA-CASE-GSC-11149-1] c 15 N73-30457

**STRINGERS**  
Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713

## STRINGS

Omnidirectional joint Patent  
[NASA-CASE-XMS-09635] c 05 N71-24623

**STRIP TRANSMISSION LINES**  
Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348  
Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340

**STRUCTURAL ANALYSIS**  
Window defect planar mapping technique  
[NASA-CASE-MSC-19442-1] c 74 N77-10899

**STRUCTURAL DESIGN**  
Life raft Patent  
[NASA-CASE-XMS-00863] c 05 N70-34857  
High pressure regulator valve Patent  
[NASA-CASE-XNP-00710] c 15 N71-10778  
Lifting body Patent Application  
[NASA-CASE-FRC-10063] c 01 N71-12217  
Ring wing tension vehicle Patent  
[NASA-CASE-XLA-04901] c 31 N71-24315  
Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366  
Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933  
Horizontally mounted solar collector  
[NASA-CASE-MFS-23349-1] c 44 N79-23481  
Fluid flow meter for measuring the rate of fluid flow in a conduit  
[NASA-CASE-MFS-28030-1] c 35 N86-25752  
Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689  
Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495

**STRUCTURAL DESIGN CRITERIA**  
Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606  
Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793

**STRUCTURAL ENGINEERING**  
Beam connector apparatus and assembly  
[NASA-CASE-MFS-25134-1] c 31 N83-31895

**STRUCTURAL FAILURE**  
Method and apparatus for nondestructive testing of pressure vessels  
[NASA-CASE-NPO-12142-1] c 38 N76-28563

**STRUCTURAL MEMBERS**  
Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462  
Optical alignment system Patent  
[NASA-CASE-XNP-02029] c 14 N70-41955  
All-directional fastener Patent  
[NASA-CASE-XLA-01807] c 15 N71-10799  
Frictionless universal joint Patent  
[NASA-CASE-NPO-10646] c 15 N71-28467  
Fastener stretcher  
[NASA-CASE-GSC-11149-1] c 15 N73-30457  
Method of laminating structural members  
[NASA-CASE-XLA-11028-1] c 24 N74-27035  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040  
Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264  
Mechanical end joint system for structural column elements  
[NASA-CASE-LAR-12482-1] c 37 N82-32732  
Daze fasteners  
[NASA-CASE-LAR-13009-1] c 37 N85-29285  
Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413  
Daze fasteners  
[NASA-CASE-LAR-13009-2] c 37 N87-22976

**STRUCTURAL STABILITY**  
Latching device  
[NASA-CASE-MFS-21606-1] c 37 N75-19685  
Flanged major modular assembly jig  
[NASA-CASE-MSC-19372-1] c 39 N76-31562  
Deployable M-braced truss structure  
[NASA-CASE-LAR-13081-1] c 37 N86-32737

**STRUCTURAL VIBRATION**  
Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c 09 N70-20737  
Seismic displacement transducer Patent  
[NASA-CASE-XMF-00479] c 14 N70-34794  
Vibrating structure displacement measuring instrument Patent  
[NASA-CASE-XLA-03135] c 32 N71-16428  
Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583

## STRUCTURES

Arbitrarily shaped model survey system Patent  
[NASA-CASE-LAR-10098] c 32 N71-26681

## STRUTS

Energy absorbing structure Patent Application  
[NASA-CASE-MSC-12279-1] c 15 N70-35679  
Collapsible structure for an antenna reflector  
[NASA-CASE-NPO-11751] c 07 N73-24176  
Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382  
Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800  
Variable length strut with longitudinal compliance and locking capability  
[NASA-CASE-MFS-25907-1] c 37 N85-34401

## STUDS (STRUCTURAL MEMBERS)

Safety-type locking pin  
[NASA-CASE-MFS-18495] c 15 N72-11385  
Stud-bonding gun  
[NASA-CASE-MFS-20299] c 15 N72-11392  
Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968

## STYRENES

Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-1] c 27 N78-32256  
Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MSC-14903-2] c 27 N80-10358  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-3] c 27 N80-24438  
Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043

## SUBASSEMBLIES

Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489

## SUBCRITICAL FLOW

Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800

## SUBLIMATION

Tubular sublimatory evaporator heat sink  
[NASA-CASE-ARC-10912-1] c 34 N77-19353  
Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258

## SUBMARINES

Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184

## SUBMERGING

Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441  
Liquid-immersible electrostatic ultrasonic transducer  
[NASA-CASE-LAR-12465-1] c 33 N82-26572

## SUBMILLIMETER WAVES

Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452  
Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127

## SUBMINIATURIZATION

Micro current measuring device using plural logarithmic response heated filamentary type diodes Patent  
[NASA-CASE-XNP-00384] c 09 N71-13530

## SUBREFLECTORS

Dish antenna having switchable beamwidth --- with truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c 33 N75-19516

## SUBSONIC SPEED

Landing arrangement for aerospace vehicle Patent  
[NASA-CASE-XLA-00805] c 31 N70-38010  
Leading edge curvature based on convective heating Patent  
[NASA-CASE-XLA-01486] c 01 N71-23497  
Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAW-1 airfoil  
[NASA-CASE-LAR-10585-1] c 02 N76-22154  
Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976

## SUBSONIC WIND TUNNELS

Variable geometry wind tunnels  
[NASA-CASE-XLA-07430] c 11 N72-22246

## SUBSTRATES

Means and methods of depositing thin films on substrates Patent  
[NASA-CASE-XNP-00595] c 15 N70-34967  
Solar cell mounting Patent  
[NASA-CASE-XNP-00826] c 03 N71-20895  
Solar panel fabrication Patent  
[NASA-CASE-XNP-03413] c 03 N71-26726

Fabrication of polycrystalline solar cells on low-cost substrates

[NASA-CASE-GSC-12022-1] c 44 N76-28635

Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses

[NASA-CASE-ARC-11039-1] c 74 N78-32854

Attaching of strain gages to substrates  
[NASA-CASE-FRC-10093-1] c 35 N80-20560

Method for applying photographic resists to otherwise incompatible substrates  
[NASA-CASE-MSC-18107-1] c 27 N81-25209

Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371

Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659

Method for depositing an oxide coating  
[NASA-CASE-LEW-13131-1] c 44 N83-10494

Densification of porous refractory substrates --- space shuttle orbiter tiles

[NASA-CASE-MSC-18737-1] c 24 N83-13171

Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388

Method and apparatus for coating substrates using a laser

[NASA-CASE-LEW-13526-1] c 36 N84-22944

Coating with overlay metallic-cermet alloy systems  
[NASA-CASE-LEW-13639-2] c 26 N84-27855

Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555

Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475

Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826

Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233

Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267

Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

## SUBSTRUCTURES

Support structure for irradiated elements Patent  
[NASA-CASE-XNP-06031] c 15 N71-15606

Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366

System for detecting substructure microfractures and method therefore  
[NASA-CASE-NPO-14192-1] c 39 N80-10507

Elevated waterproof access floor system and method of making the same  
[NASA-CASE-ARC-11363-1] c 31 N87-16918

## SUCTION

Method for maintaining precise suction strip porosities  
[NASA-CASE-LAR-13638-1] c 31 N88-29051

## SUGARS

Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

## SULFATES

Intumescent paints Patent  
[NASA-CASE-ARC-10099-1] c 18 N71-15469

## SULFIDES

Stabilized lanthanum sulphur compounds --- thermoelectric materials  
[NASA-CASE-NPO-16135-1] c 25 N83-24572

## SULFONES

Electrolytic cell structure  
[NASA-CASE-LAR-11042-1] c 33 N75-27252

Solvent resistant thermoplastic aromatic poly(imidesulfone) and process for preparing same  
[NASA-CASE-LAR-12858-1] c 27 N83-34041

Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-1] c 27 N84-22747

Process for preparing solvent resistant, thermoplastic aromatic poly(imidesulfone)  
[NASA-CASE-LAR-12858-2] c 27 N85-20124

Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-2] c 27 N86-21675

Sulfone-ester polymers containing pendent ethynyl groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450

Semi-2-interpenetrating networks of high temperature systems  
[NASA-CASE-LAR-13450-1] c 27 N87-28657

## SULFONIC ACID

Intumescent coatings containing 4,4'-dinitrosulfanilide  
[NASA-CASE-ARC-11042-1] c 24 N78-14096

The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312

## SULFUR COMPOUNDS

Polymeric vehicles as carriers for sulfonic acid salt of nitrosubstituted aromatic amines  
[NASA-CASE-ARC-10325] c 06 N72-25147

## SULFUR DIOXIDES

Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656

Simultaneous treatment of SO<sub>2</sub> containing stack gases and waste water  
[NASA-CASE-MSC-16258-1] c 45 N79-12584

## SULFURIC ACID

Synthesis of 2,4,8,10-tetroxaspiro[5,5]undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187

## SUM RULES

Computing apparatus Patent  
[NASA-CASE-XGS-04765] c 08 N71-18693

## SUN

Sun tracking solar energy collector  
[NASA-CASE-NPO-13921-1] c 44 N79-14526

## SUNGASSES

Soft frame adjustable eyeglasses Patent  
[NASA-CASE-XMS-06064] c 05 N71-23096

## SUNLIGHT

Illumination system including a virtual light source Patent  
[NASA-CASE-HQN-10781] c 23 N71-30292

Illumination control apparatus for compensating solar light  
[NASA-CASE-KSC-11010-1] c 74 N79-12890

Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232

Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036

## SUPERCHARGERS

Supercharged topping rocket propellant feed system  
[NASA-CASE-XLE-02062-1] c 20 N80-14188

Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808

## SUPERCONDUCTING MAGNETS

Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423

Superconducting alternator  
[NASA-CASE-XLE-02824] c 03 N69-39890

Segmented superconducting magnet for a broadband traveling wave maser Patent  
[NASA-CASE-XGS-10518] c 16 N71-28554

Superconducting magnet Patent  
[NASA-CASE-XNP-06503] c 23 N71-29049

Magnetometer using superconducting rotating body  
[NASA-CASE-NPO-13388-1] c 35 N76-16390

Stable superconducting magnet --- high current levels below critical temperature  
[NASA-CASE-XMF-05373-1] c 33 N79-21264

Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082

## SUPERCONDUCTIVITY

Superconducting alternator Patent  
[NASA-CASE-XLE-02823] c 09 N71-23443

System for improving signal-to-noise ratio of a communication signal  
[NASA-CASE-MSC-12259-2] c 07 N72-33146

Superconductive magnetic-field-trapping device  
[NASA-CASE-XNP-01185] c 26 N73-28710

Doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c 33 N75-31332

Method of producing high T<sub>i</sub>(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543

Planar thin film SQUID with integral flux concentrator  
[NASA-CASE-MFS-28282-1] c 76 N88-29602

## SUPERCONDUCTORS

Superconductive accelerometer Patent  
[NASA-CASE-XMF-01099] c 14 N71-15969

Twisted multifilament superconductor  
[NASA-CASE-LEW-11726-1] c 26 N73-26752

Method of fabricating a twisted composite superconductor  
[NASA-CASE-LEW-11015] c 26 N73-32571

Germanium coated microbridge and method  
[NASA-CASE-MFS-23274-1] c 33 N78-13320

## SUPERCOOLING

Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650

## SUPERCRITICAL FLUIDS

Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800

## SUPERCRITICAL PRESSURES

Oil shale extraction using super-critical extraction  
[NASA-CASE-NPO-15656-1] c 43 N84-23012

**SUPERFLUIDITY**

- Helium refining by superfluidity Patent  
[NASA-CASE-XNP-00733] c 06 N70-34946  
Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c 36 N76-29575

**SUPERHEATING**

- Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667

**SUPERHIGH FREQUENCIES**

- Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524

**SUPERLATTICES**

- Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836

**SUPERPLASTICITY**

- Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

**SUPERSONIC AIRCRAFT**

- Variable sweep wing configuration Patent  
[NASA-CASE-XLA-00230] c 02 N70-33255  
Variable sweep aircraft wing Patent  
[NASA-CASE-XLA-00350] c 02 N70-38011  
Variable sweep aircraft Patent  
[NASA-CASE-XLA-03659] c 02 N71-11041  
Translating horizontal tail Patent  
[NASA-CASE-XLA-08801-1] c 02 N71-11043  
Supersonic aircraft Patent  
[NASA-CASE-XLA-04451] c 02 N71-12243  
Absorptive splitter for closely spaced supersonic engine air inlets Patent  
[NASA-CASE-XLA-02865] c 28 N71-15563  
Oblique-wing supersonic aircraft  
[NASA-CASE-ARC-10470-3] c 05 N76-29217  
Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232  
Passive venting technique for shallow cavities  
[NASA-CASE-LAR-13875-1] c 05 N89-14233

**SUPERSONIC COMBUSTION**

- Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502  
Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168

**SUPERSONIC DRAG**

- Annular supersonic decelerator or drogue Patent  
[NASA-CASE-XLE-00222] c 02 N70-37939

**SUPERSONIC FLIGHT**

- Variable sweep wing aircraft Patent  
[NASA-CASE-XLA-00221] c 02 N70-33266  
High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088

**SUPERSONIC FLOW**

- Optical probing of supersonic flows with statistical correlation  
[NASA-CASE-MFS-20642] c 14 N72-21407  
Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c 35 N74-32878  
Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765  
Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29789

**SUPERSONIC INLETS**

- Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c 02 N74-20646  
Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet  
[NASA-CASE-LEW-11915-1] c 35 N76-14431  
Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168

**SUPERSONIC NOZZLES**

- Penshape exhaust nozzle for supersonic engine Patent  
[NASA-CASE-XLE-00057] c 28 N70-38711  
Telescoping-spike supersonic inlet for aircraft engines Patent  
[NASA-CASE-XLE-00005] c 28 N70-39899  
Electric arc apparatus Patent  
[NASA-CASE-XAC-01677] c 09 N71-20816  
Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392

**SUPERSONIC SPEED**

- Continuously operating induction plasma accelerator Patent  
[NASA-CASE-XLA-01354] c 25 N70-36946  
Static pressure probe  
[NASA-CASE-LAR-11552-1] c 35 N76-14429

**SUPERSONIC TRANSPORTS**

- Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958

- Traffic control system and method Patent  
[NASA-CASE-GSC-10087-1] c 02 N71-19287  
Position location system and method  
[NASA-CASE-GSC-10087-3] c 07 N72-12080  
Doppler compensation by shifting transmitted object frequency within limits  
[NASA-CASE-GSC-10087-4] c 07 N73-20174  
Supersonic transport --- using canard surfaces  
[NASA-CASE-LAR-11932-1] c 05 N78-32086

**SUPERSONIC WIND TUNNELS**

- Wind tunnel  
[NASA-CASE-LAR-10135-1] c 09 N79-21083  
Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235

**SUPPORT INTERFERENCE**

- Spherical bearing --- to reduce vibration effects  
[NASA-CASE-MFS-23447-1] c 37 N79-11404

**SUPPORT SYSTEMS**

- Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604  
Support structure for irradiated elements Patent  
[NASA-CASE-XNP-06031] c 15 N71-15606  
Multilegged support system Patent  
[NASA-CASE-XLA-01326] c 11 N71-21481  
Adjustable support  
[NASA-CASE-NPO-10721] c 15 N72-27484  
Hydrostatic bearing support  
[NASA-CASE-LEW-11158-1] c 37 N77-28486  
Metric half-span model support system  
[NASA-CASE-LAR-12441-1] c 09 N82-23254

**SUPPORTS**

- A support technique for vertically oriented launch vehicles  
[NASA-CASE-XLA-02704] c 11 N69-21540  
Pneumatic mirror support system  
[NASA-CASE-XLA-03271] c 11 N69-24321  
Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485  
Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701  
Swivel support for gas bearings Patent  
[NASA-CASE-XMF-07808] c 15 N71-23812  
Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627  
Angular displacement indicating gas bearing support system Patent  
[NASA-CASE-XLA-09346] c 15 N71-28740  
Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123  
Fine adjustment mount  
[NASA-CASE-MFS-20249] c 15 N72-11386  
Expandable support means  
[NASA-CASE-NPO-11059] c 15 N72-17454  
Optical system support apparatus  
[NASA-CASE-XER-07896-2] c 23 N72-22673  
Fixture for supporting articles during vibration tests  
[NASA-CASE-MFS-20523] c 14 N72-27412  
Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267  
Collapsible structure for an antenna reflector  
[NASA-CASE-NPO-11751] c 07 N73-24176  
Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692  
Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft  
[NASA-CASE-MFS-21680-1] c 18 N74-27397  
Variable contour securing system  
[NASA-CASE-MSC-16270-1] c 37 N78-27423  
Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492  
Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661  
Model mount system for testing flutter  
[NASA-CASE-LAR-12950-1] c 09 N84-34448  
Portable pallet weighing apparatus  
[NASA-CASE-GSC-12789-1] c 35 N85-20294  
Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112  
Remote pivot decoupler pylon: Wing/store flutter suppressor  
[NASA-CASE-LAR-13173-1] c 05 N87-14314  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334  
Almond test body --- for microwave anechoic chambers  
[NASA-CASE-LAR-13747-1] c 32 N88-24845  
Thermal compensating mount  
[NASA-CASE-LAR-13794-1] c 35 N88-24942  
Method of forming dynamic membrane on stainless steel support  
[NASA-CASE-MSC-18172-3] c 31 N88-29052  
Don/doff support stand for use with rear entry space suits  
[NASA-CASE-MSC-21364-1] c 54 N89-13889

**SUPPRESSORS**

- Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980

**SURFACE ACOUSTIC WAVE DEVICES**

- Distributed feedback acoustic surface wave oscillator  
[NASA-CASE-NPO-13673-1] c 71 N77-26919

**SURFACE CRACKS**

- Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900

**SURFACE DEFECTS**

- Microwave flaw detector Patent  
[NASA-CASE-ARC-10009-1] c 15 N71-17822  
Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c 35 N74-32879

**SURFACE DIFFUSION**

- Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-01765] c 18 N71-10772  
Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes in utilizing the transient thermal lens effect  
[NASA-CASE-NPO-14657-1] c 74 N81-17887

**SURFACE FINISHING**

- Method of forming transparent films of ZnO  
[NASA-CASE-FRC-10019] c 15 N73-12487  
Device and method for determining X ray reflection efficiency of optical surfaces  
[NASA-CASE-MFS-20243] c 23 N73-13662  
Surface finishing --- for aircraft wings  
[NASA-CASE-MSC-12631-1] c 24 N77-28225  
Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437  
Surface finishing  
[NASA-CASE-MSC-12631-3] c 27 N81-14077  
Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455  
Surface texturing of fluoropolymers  
[NASA-CASE-LEW-13028-1] c 27 N82-33521  
Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996  
Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456  
Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267  
Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587  
Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416  
Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179

**SURFACE GEOMETRY**

- Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959

**SURFACE IONIZATION**

- Field ionization electrodes Patent  
[NASA-CASE-ERC-10013] c 09 N71-26678  
Method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c 15 N72-25457

**SURFACE LAYERS**

- Bismuth-lead coatings for gas bearings used in atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c 15 N71-20739  
Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c 24 N74-19769  
Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039

**SURFACE NAVIGATION**

- Navigation system for land vehicles  
[NASA-CASE-LAR-13322-1] c 04 N88-24620

**SURFACE PROPERTIES**

- Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471  
Ablation article and method  
[NASA-CASE-LAR-10439-1] c 33 N73-27796  
Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c 34 N74-15652  
Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c 36 N74-20009  
Apparatus for microbiological sampling --- including automatic swabbing  
[NASA-CASE-LAR-11069-1] c 35 N75-12272  
Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367

Device for measuring the contour of a surface  
[NASA-CASE-LAR-11869-1] c 74 N78-27904  
Displacement probes with self-contained exciting medium  
[NASA-CASE-LAR-11690-1] c 35 N80-14371  
Apparatus for electrolytically tapered or contoured cavities  
[NASA-CASE-XNP-08835-1] c 37 N80-14395  
Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170  
Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698  
Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160  
Liquid thickness gauge  
[NASA-CASE-LAR-13826-1] c 35 N88-29150

**SURFACE REACTIONS**

Nondestructive spot test method for magnesium and magnesium alloys  
[NASA-CASE-LAR-10953-1] c 17 N73-27446  
Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960  
Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
[NASA-CASE-LAR-10740-1] c 35 N88-30105

**SURFACE ROUGHNESS**

Surface roughness detector Patent  
[NASA-CASE-XLA-00203] c 14 N70-34161  
Optical inspection apparatus Patent  
[NASA-CASE-XMF-00462] c 14 N70-34298  
Contour surveying system Patent  
[NASA-CASE-XLA-08646] c 14 N71-17586  
Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391  
Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440  
Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117  
Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565

**SURFACE ROUGHNESS EFFECTS**

Meteorological balloon Patent  
[NASA-CASE-XMF-04163] c 02 N71-23007

**SURFACE TEMPERATURE**

Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144

**SURFACE VEHICLES**

Optimal control system for an electric motor driven vehicle  
[NASA-CASE-NPO-11210] c 11 N72-20244  
Vehicle for use in planetary exploration  
[NASA-CASE-NPO-11366] c 11 N73-26238  
Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c 36 N74-15145  
Vehicle locating system utilizing AM broadcasting station carriers  
[NASA-CASE-NPO-13217-1] c 32 N75-26194  
Vehicular impact absorption system  
[NASA-CASE-NPO-14014-1] c 37 N79-10420  
Personnel emergency carrier vehicle  
[NASA-CASE-KSC-11282-1] c 85 N87-21755  
Articulated suspension system  
[NASA-CASE-NPO-17354-1-CU] c 37 N88-24973

**SURFACE WAVES**

Antenna design for surface wave suppression Patent  
[NASA-CASE-XLA-10772] c 07 N71-28980  
Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768  
Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282

**SURFACES**

Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176  
Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995  
Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c 35 N74-13129  
Photoelectron spectrometer with means for stabilizing sample surface potential  
[NASA-CASE-NPO-13772-1] c 35 N78-10429

**SURFACTANTS**

Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152

**SURGERY**

Tissue macerating instrument  
[NASA-CASE-LEW-12668-1] c 52 N78-14773

Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12955-1] c 52 N80-14684

Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389

**SURGES**

Transient-compensated SCR inverter  
[NASA-CASE-XLA-08507] c 09 N69-39984  
Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531

**SURGICAL INSTRUMENTS**

Ophthalmic method and apparatus  
[NASA-CASE-LEW-11669-1] c 05 N73-27062  
Ophthalmic liquefaction pump  
[NASA-CASE-LEW-12051-1] c 52 N75-33640  
Cutting head for ultrasonic lithotripsy  
[NASA-CASE-GSC-12944-1] c 52 N86-19885

**SURVIVAL EQUIPMENT**

Survival couch Patent  
[NASA-CASE-XLA-00118] c 05 N70-33285  
Life preserver Patent  
[NASA-CASE-XMS-00864] c 05 N70-36493  
Soft frame adjustable eyeglasses Patent  
[NASA-CASE-XMS-06064] c 05 N71-23096

**SUSPENDING (HANGING)**

Parallel motion suspension device Patent  
[NASA-CASE-XNP-01567] c 15 N70-41310  
Reduced gravity simulator Patent  
[NASA-CASE-XLA-01787] c 11 N71-16028  
Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334

**SUSPENSION SYSTEMS (VEHICLES)**

Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587  
Articulated suspension system  
[NASA-CASE-NPO-17354-1-CU] c 37 N88-24973

**SWEAT**

Sweat collection capsule  
[NASA-CASE-ARC-11031-1] c 52 N81-29763

**SWEAT COOLING**

Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226  
Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075  
Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c 20 N74-32919

**SWEPT CIRCUITS**

Multiple slope sweep generator Patent  
[NASA-CASE-XMS-03542] c 09 N71-28926

**SWEPT EFFECT**

High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088  
Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107

**SWEPT FREQUENCY**

Swept group delay measurement  
[NASA-CASE-NPO-13909-1] c 33 N78-25319

**SWELLING**

Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572

**SWEPT FORWARD WINGS**

High performance forward swept wing aircraft  
[NASA-CASE-ARC-11636-1] c 05 N88-28914

**SWEPT WINGS**

Supersonic aircraft Patent  
[NASA-CASE-XLA-04451] c 02 N71-12243

**SWIRLING**

Slosh alleviator Patent  
[NASA-CASE-XLA-05749] c 15 N71-19569  
Swirl can primary combustor  
[NASA-CASE-LEW-11326-1] c 23 N73-30665  
Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195

**SWITCHES**

Switching mechanism with energy storage means Patent  
[NASA-CASE-XGS-00473] c 03 N70-38713  
Digital memory in which the driving of each word location is controlled by a switch core Patent  
[NASA-CASE-XNP-01466] c 10 N71-26434  
RF controlled solid state switch  
[NASA-CASE-ARC-10136-1] c 09 N72-22202  
High power RF coaxial switch  
[NASA-CASE-NPO-14229-1] c 33 N80-18285  
Automatic thermal switch  
[NASA-CASE-GSC-12415-1] c 33 N82-24419  
Fiber optic crossbar switch for automatically patching optical signals  
[NASA-CASE-KSC-11104-1] c 74 N83-29032  
Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190

Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307  
Three-phase power factor controller with induced EMF sensing

[NASA-CASE-MFS-25852-1] c 33 N84-33661  
Laser activated MTOS microwave device  
[NASA-CASE-NPO-16112-1] c 33 N86-19516  
Self-actuating heat switches for redundant refrigeration systems  
[NASA-CASE-NPO-17085-1-CU] c 31 N89-12785

**SWITCHING**

Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975

**SWITCHING CIRCUITS**

Solid state switch  
[NASA-CASE-XNP-09228] c 09 N69-27500  
Power control circuit  
[NASA-CASE-XNP-02713] c 10 N69-39888  
A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148  
Space vehicle electrical system Patent  
[NASA-CASE-XMF-00517] c 03 N70-34157  
High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c 09 N70-39915  
Switching circuit employing regeneratively connected complementary transistors Patent  
[NASA-CASE-XNP-02654] c 10 N70-42032  
Electronic beam switching commutator Patent  
[NASA-CASE-XGS-01451] c 09 N71-10677  
Electronic amplifier with power supply switching Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798  
SCR blocking pulse gate amplifier Patent  
[NASA-CASE-XLA-07497] c 09 N71-12514  
Magnetic core current steering commutator Patent  
[NASA-CASE-NPO-10201] c 08 N71-18694  
A dc-coupled noninverting one-shot Patent  
[NASA-CASE-XNP-09450] c 10 N71-18723  
Reversible current control apparatus Patent  
[NASA-CASE-XLA-09371] c 10 N71-18724  
Exclusive-Or digital logic module Patent  
[NASA-CASE-XLA-07732] c 08 N71-18751  
Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864  
Sight switch using an infrared source and sensor Patent  
[NASA-CASE-XMF-03934] c 09 N71-22985  
Complementary regenerative switch Patent  
[NASA-CASE-XGS-02751] c 09 N71-23015  
Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c 10 N71-23033  
Pulse modulator providing fast rise and fall times Patent  
[NASA-CASE-XMS-04919] c 09 N71-23270  
Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271  
Increasing efficiency of switching type regulator circuits Patent  
[NASA-CASE-XMS-09352] c 09 N71-23316  
Indexing microwave switch Patent  
[NASA-CASE-XNP-06507] c 09 N71-23548  
Multialarm summary alarm Patent  
[NASA-CASE-XLE-03061-1] c 10 N71-24798  
Switching circuit Patent  
[NASA-CASE-XNP-06505] c 10 N71-24799  
Inverter with means for base current shaping for sweeping charge carriers from base region Patent  
[NASA-CASE-XGS-06226] c 10 N71-25950  
Current steering switch Patent  
[NASA-CASE-XNP-08567] c 09 N71-26000  
Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418  
Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531  
Method and means for providing an absolute power measurement capability Patent  
[NASA-CASE-ERC-11020] c 14 N71-26774  
Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c 10 N71-27126  
Compensating bandwidth switching transients in an amplifier circuit Patent  
[NASA-CASE-XNP-01107] c 10 N71-28859  
Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MSC-13492-1] c 10 N71-28860  
Digital memory sense amplifying means Patent  
[NASA-CASE-XNP-01012] c 08 N71-28925  
Current regulating voltage divider  
[NASA-CASE-MFS-20935] c 09 N71-34212  
Reference voltage switching unit  
[NASA-CASE-NPO-11253] c 09 N72-17157  
Optimum performance spacecraft solar cell system  
[NASA-CASE-GSC-10669-1] c 03 N72-20031

- Flow rate switch  
[NASA-CASE-NPO-10722] c 09 N72-20199
- Switching regulator  
[NASA-CASE-LEW-11005-1] c 09 N72-21243
- Data multiplexer using tree switching configuration  
[NASA-CASE-NPO-11333] c 08 N72-22162
- Pulse coupling circuit  
[NASA-CASE-LEW-10433-1] c 09 N72-22197
- Solid state remote circuit selector switch  
[NASA-CASE-LEW-10387] c 09 N72-22201
- Pressure operated electrical switch responsive to a pressure decrease after a pressure increase  
[NASA-CASE-LAR-10137-1] c 09 N72-22204
- Fast response low power drain logic circuits  
[NASA-CASE-GSC-10878-1] c 10 N72-22236
- CRT blanking and brightness control circuit  
[NASA-CASE-KSC-10647-1] c 10 N72-31273
- Electronic video editor  
[NASA-CASE-KSC-10003] c 10 N73-13235
- Radiation sensitive solid state switch  
[NASA-CASE-NPO-10817-1] c 08 N73-30135
- Transparent switchboard  
[NASA-CASE-MSC-13746-1] c 10 N73-32143
- High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c 33 N74-22814
- Isolated output system for a class D switching-mode amplifier  
[NASA-CASE-MFS-21616-1] c 33 N75-30429
- Dual digital video switcher  
[NASA-CASE-KSC-10782-1] c 33 N75-30431
- Multi-computer multiple data path hardware exchange system  
[NASA-CASE-NPO-13422-1] c 60 N76-14818
- Sustained arc ignition system  
[NASA-CASE-LEW-12444-1] c 33 N77-28385
- Window comparator  
[NASA-CASE-FRC-10090-1] c 33 N78-18308
- Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254
- System for automatically switching transformer coupled lines  
[NASA-CASE-MSC-16697-1] c 33 N79-28415
- Self-reconfiguring solar cell system  
[NASA-CASE-LEW-12586-1] c 44 N80-14472
- Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404
- Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340
- Control means for a solid state crossbar switch  
[NASA-CASE-NPO-15066-1] c 33 N82-29538
- Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189
- Pulsed thyristor trigger control circuit  
[NASA-CASE-MFS-25616-1] c 33 N84-16455
- Simplified dc to dc converter  
[NASA-CASE-LEW-13495-1] c 33 N84-33663
- Hybrid power semiconductor  
[NASA-CASE-LEW-13922-1] c 33 N86-20672
- Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233
- SWITCHING THEORY**  
Multiple circuit switch apparatus with improved pivot actuator structure Patent  
[NASA-CASE-XAC-03777] c 10 N71-15909
- SWIVELS**  
Swivel support for gas bearings Patent  
[NASA-CASE-XMF-07808] c 15 N71-23812
- SYNCHRONISM**  
Time division multiplex system  
[NASA-CASE-XGS-05918] c 07 N69-39974
- Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11281
- Method of resolving clock synchronization error and means therefor Patent  
[NASA-CASE-XNP-08875] c 10 N71-23099
- Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent  
[NASA-CASE-XGS-03632] c 09 N71-23311
- Time synchronization system utilizing moon reflected coded signals Patent  
[NASA-CASE-NPO-10143] c 10 N71-26326
- Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577
- Synchronized voltage contrast display analysis system  
[NASA-CASE-NPO-14567-1] c 33 N83-18996
- SYNCHRONIZED OSCILLATORS**  
Phase demodulation system with two phase locked loops Patent  
[NASA-CASE-XNP-00777] c 10 N71-19469
- Phase locked phase modulator including a voltage controlled oscillator Patent  
[NASA-CASE-XNP-05382] c 10 N71-23544
- Automatic frequency control loop including synchronous switching circuits  
[NASA-CASE-KSC-10393] c 09 N72-21247
- SYNCHRONIZERS**  
Burst synchronization detection system Patent  
[NASA-CASE-XMS-05605-1] c 10 N71-19468
- Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
[NASA-CASE-GSC-10373-1] c 07 N71-19773
- Synchronous servo loop control system Patent  
[NASA-CASE-XNP-03744] c 10 N71-20448
- Digital synchronizer Patent  
[NASA-CASE-NPO-10851] c 07 N71-24613
- Video sync processor Patent  
[NASA-CASE-KSC-10002] c 10 N71-25865
- Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12462-1] c 32 N74-20809
- Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12494-1] c 32 N74-20810
- System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519
- Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245
- Memory-based frame synchronizer --- for digital communication systems  
[NASA-CASE-GSC-12430-1] c 60 N82-16747
- SYNCHRONOUS MOTORS**  
Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136
- Motor run-up system --- power lines  
[NASA-CASE-NPO-13374-1] c 33 N75-19524
- SYNCHRONOUS SATELLITES**  
Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958
- Serrodyne frequency converter re-entrant amplifier system Patent  
[NASA-CASE-XGS-01022] c 07 N71-16088
- Traffic control system and method Patent  
[NASA-CASE-GSC-10087-1] c 02 N71-19287
- Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854
- Satellite interlace synchronization system  
[NASA-CASE-GSC-10390-1] c 07 N72-11149
- Synchronous orbit battery cyclor  
[NASA-CASE-GSC-11211-1] c 03 N72-25020
- Systems and methods for determining radio frequency interference  
[NASA-CASE-GSC-12150-1] c 32 N79-11265
- Satellite personal communications system  
[NASA-CASE-NPO-14480-1] c 32 N80-20448
- SYNTHESIS**  
Synthesis of polymeric schiff bases by schiff-base exchange reactions Patent  
[NASA-CASE-XMF-08651] c 06 N71-11236
- Preparation of ordered poly /arylenesiloxane/ polymers  
[NASA-CASE-XMF-10753] c 06 N71-11237
- Imidazopyrrolone/imide copolymers Patent  
[NASA-CASE-XLA-08802] c 06 N71-11238
- Preparation of polyimides from mixtures of monomeric diamines and esters of polycarboxylic acids  
[NASA-CASE-LEW-11325-1] c 06 N73-27980
- SYNTHESIS (CHEMISTRY)**  
Prepolymer dianhydrides  
[NASA-CASE-NPO-13899-1] c 27 N80-32515
- Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104
- Bifunctional monomers having terminal oxime and cyano or amidine groups  
[NASA-CASE-ARC-11253-3] c 27 N81-24256
- Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174
- Electrically conductive palladium containing polyimide films  
[NASA-CASE-LAR-12705-1] c 25 N82-26396
- Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188
- Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977
- Solvent resistant thermoplastic aromatic poly(imidesulfone) and process for preparing same  
[NASA-CASE-LAR-12858-1] c 27 N83-34041
- Polyphenylene ethers with imide linking groups  
[NASA-CASE-LAR-12980-1] c 27 N84-22749
- Phenoxy resins containing pendent ethynyl groups and cured resins obtained therefrom  
[NASA-CASE-LAR-13262-1] c 23 N85-28973
- Synthesis of 2,4,8,10-tetroxaspiro5,5undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187
- Fire-resistant phosphorus containing polyimides and copolyimides  
[NASA-CASE-ARC-11522-2] c 27 N85-34280
- Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455
- Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560
- Perfluoro (imidoylamidine) diamidines  
[NASA-CASE-ARC-11402-3] c 23 N86-21582
- Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-2] c 27 N86-21675
- Sulfone-ester polymers containing pendent ethynyl groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450
- Polymer of phosphonylmethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525
- Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526
- New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433
- The 5-(4-Ethynylphenoxy) isophthalic chloride  
[NASA-CASE-LAR-13316-2] c 27 N87-14515
- Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof  
[NASA-CASE-LAR-13318-1] c 27 N87-14516
- Ethynyl terminated ester oligomers and polymers therefrom  
[NASA-CASE-LAR-13118-2] c 27 N87-16907
- Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112
- Polyenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-1-CU] c 27 N87-22847
- Preparation of B-trichloroborazine  
[NASA-CASE-ARC-11643-1-SB] c 23 N87-23698
- Fire and heat resistant laminating resins based on maleimide and citraconimide substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6- diamino benzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564
- Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575
- Aminophenoxycyclotriphosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469
- Process for developing crystallinity in linear aromatic polyimides  
[NASA-CASE-LAR-13732-1] c 27 N87-25474
- Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692
- Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040
- Novel ladder polymers for use as high temperature stable resins or coatings  
[NASA-CASE-LEW-14203-1] c 27 N88-29984
- Polyphenylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814
- Polyenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-2-CU] c 23 N89-12667
- Low dielectric fluorinated poly(phenylene ether ketone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496
- Polyphenylquinoxalines containing alkylendiox groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337
- SYNTHESIZERS**  
Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525
- SYNTHETIC APERTURE RADAR**  
Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391
- Azimuth correlator for real-time synthetic aperture radar image processing  
[NASA-CASE-NPO-14019-1] c 32 N79-14268
- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-1] c 32 N79-19195
- Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297

Servomechanism for Doppler shift compensation in optical correlator for synthetic aperture radar  
[NASA-CASE-NPO-14998-1] c 32 N83-18975  
Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968  
Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918  
Synthetic aperture radar target simulator  
[NASA-CASE-NPO-15024-1] c 32 N84-27951  
Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651  
Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327  
Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711  
Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1-CU] c 32 N88-26541

**SYNTHETIC FIBERS**

Fluid containers and resealable septum therefor Patent  
[NASA-CASE-NPO-10123] c 15 N71-24835  
Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MSC-12109] c 18 N71-26285  
Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747  
Polymeric electrolytic hygrometer  
[NASA-CASE-NPO-13948-1] c 35 N78-25391  
Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262  
Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187

**SYNTHETIC FUELS**

Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261  
Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475

**SYNTHETIC RESINS**

Coating process  
[NASA-CASE-XNP-06508] c 18 N69-39895  
Phosphorus-containing bisimide resins  
[NASA-CASE-ARC-11321-1] c 27 N81-27272  
Method for forming pyrrone molding powders and products of said method  
[NASA-CASE-LAR-10423-1] c 23 N82-29358  
Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560

**SYNTHETIC RUBBERS**

Process for the preparation of polycarbonarylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271

**SYRINGES**

Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605  
Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407

**SYSTEM EFFECTIVENESS**

System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865

**SYSTEM FAILURES**

Tape recorder Patent  
[NASA-CASE-XGS-08259] c 14 N71-23698  
Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c 35 N75-30504  
Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115

**SYSTEMS ANALYSIS**

Analog-to-digital converter analyzing system  
[NASA-CASE-NPO-10560] c 08 N72-22166

**SYSTEMS ENGINEERING**

Magnetohydrodynamic induction machine  
[NASA-CASE-XNP-07481] c 25 N69-21929  
Gravity stabilized flying vehicle Patent  
[NASA-CASE-MSC-12111-1] c 02 N71-11039  
Solar battery with interconnecting means for plural cells Patent  
[NASA-CASE-XNP-06506] c 03 N71-11050  
Helmet assembly and latch means therefor Patent  
[NASA-CASE-XMS-04935] c 05 N71-11190  
Multi-feed cone Cassegrain antenna Patent  
[NASA-CASE-NPO-10539] c 07 N71-11285

Viscous-pendulum-damper Patent  
[NASA-CASE-XLA-02079] c 12 N71-16894  
Out of tolerance warning alarm system for plurality of monitored circuits Patent  
[NASA-CASE-XMS-10984-1] c 10 N71-19417  
Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435  
Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439  
Biomedical radiation detecting probe Patent  
[NASA-CASE-XMS-01177] c 05 N71-19440  
High speed binary to decimal conversion system Patent  
[NASA-CASE-XGS-01230] c 08 N71-19544  
Evaporant source for vapor deposition Patent  
[NASA-CASE-XMF-06065] c 15 N71-20395  
Method and apparatus for making a heat insulating and ablative structure Patent  
[NASA-CASE-XMS-02009] c 33 N71-20834  
Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864  
Inflatable support structure Patent  
[NASA-CASE-XLA-01731] c 32 N71-21045  
Fast opening diaphragm Patent  
[NASA-CASE-XI A-03660] c 15 N71-21060  
Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721  
Apparatus for machining geometric cones Patent  
[NASA-CASE-XMS-04292] c 15 N71-22722  
Spin forming tubular elbows Patent  
[NASA-CASE-XMF-01083] c 15 N71-22723  
Spacecraft airlock Patent  
[NASA-CASE-XLA-02050] c 31 N71-22968  
Station keeping of a gravity gradient stabilized satellite Patent  
[NASA-CASE-XLA-03132] c 31 N71-22969  
Filler valve Patent  
[NASA-CASE-XNP-01747] c 15 N71-23024  
Refrigeration apparatus Patent  
[NASA-CASE-XNP-08877] c 15 N71-23025  
Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026  
Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent  
[NASA-CASE-XMS-02930] c 11 N71-23042  
Variable duration pulse integrator Patent  
[NASA-CASE-XLA-01219] c 10 N71-23084  
Sealed electrochemical cell provided with a flexible casing Patent  
[NASA-CASE-XGS-01513] c 03 N71-23336  
Extended area semiconductor radiation detectors and a novel readout arrangement Patent  
[NASA-CASE-XGS-03230] c 14 N71-23401  
Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790  
Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597  
Method of attaching a cover glass to a silicon solar cell Patent  
[NASA-CASE-XLE-08569-2] c 03 N71-24681  
Attitude control system for sounding rockets Patent  
[NASA-CASE-XGS-01654] c 31 N71-24750  
Temperature telemetric transmitter Patent  
[NASA-CASE-NPO-10649] c 07 N71-24840  
Tuning arrangement for an electron discharge device or the like Patent  
[NASA-CASE-XNP-09771] c 09 N71-24841  
Broadband modified turnstile antenna Patent  
[NASA-CASE-MSC-12209] c 09 N71-24842  
Apparatus for determining the deflection of an electron beam impinging on a target Patent  
[NASA-CASE-XMF-06617] c 09 N71-24843  
BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890  
Noninterruptible digital counting system Patent  
[NASA-CASE-XNP-09759] c 08 N71-24891  
Duct coupling for single-handed operation Patent  
[NASA-CASE-MFS-20395] c 15 N71-24903  
Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904  
Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975  
Internal work light Patent  
[NASA-CASE-XKS-05932] c 09 N71-26787  
Apparatus for inspecting microfilm Patent  
[NASA-CASE-MFS-20240] c 14 N71-26788  
Apparatus for remote measurement of displacement of marks on a specimen undergoing a tensile test  
[NASA-CASE-NPO-10778] c 14 N72-11364  
Optimum performance spacecraft solar cell system  
[NASA-CASE-GSC-10669-1] c 03 N72-20031

Electric storage battery  
[NASA-CASE-NPO-11021] c 03 N72-20032  
Spacecraft attitude control method and apparatus  
[NASA-CASE-HQN-10439] c 21 N72-21624  
Light sensor  
[NASA-CASE-NPO-11311] c 14 N72-25414  
Flight control system  
[NASA-CASE-MSC-13397-1] c 21 N72-25595  
Program for computer aided reliability estimation  
[NASA-CASE-NPO-13086-1] c 15 N73-12495  
Measurement system  
[NASA-CASE-MFS-20658-1] c 14 N73-30386  
Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c 16 N73-33397  
System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c 35 N74-13132  
Three mirror glancing incidence system for X-ray telescope  
[NASA-CASE-MFS-21372-1] c 74 N74-27866  
Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c 35 N75-25124  
Compact pulsed laser having improved heat conductance  
[NASA-CASE-NPO-13147-1] c 36 N77-25502  
Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119  
Non-tracking solar energy collector system  
[NASA-CASE-NPO-13813-1] c 44 N78-31526  
Horizontally mounted solar collector  
[NASA-CASE-MFS-23349-1] c 44 N79-23481  
Contour measurement system  
[NASA-CASE-MFS-23726-1] c 43 N79-26439  
Redundant motor drive system  
[NASA-CASE-MFS-23777-1] c 37 N80-32716  
System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724  
A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447  
Multiplex electric discharge gas laser system  
[NASA-CASE-NPO-16433-1] c 36 N87-23961

**SYSTOLIC ARRAYS**  
Systolic VLSI array for implementing the Kalman filter Algorithm  
[NASA-CASE-NPO-17108-1-CU] c 33 N87-27926

**T****TABS (CONTROL SURFACES)**

Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947

**TACHOMETERS**

Digital cardiachachometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896  
Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904  
Ratometer  
[NASA-CASE-MFS-20418] c 14 N73-24473  
Tachometer  
[NASA-CASE-MFS-23175-1] c 35 N77-30436  
Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017

**TAIL ASSEMBLIES**

Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MSC-18422-1] c 37 N82-16408  
Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231

**TAKEOFF**

Airplane take-off performance indicator Patent  
[NASA-CASE-XLA-00100] c 14 N70-36807  
Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157

**TANGENTS**

Derivation of a tangent function using an integrated circuit four-quadrant multiplier  
[NASA-CASE-MSC-13907-1] c 10 N73-26230

**TANK GEOMETRY**

Tank construction for space vehicles Patent  
[NASA-CASE-XMF-01899] c 31 N70-41948

**TANKERS**

Tanker orbit transfer vehicle and method  
[NASA-CASE-MSC-20543-1] c 18 N84-22610

**TANKS (COMBAT VEHICLES)**

Tank tread assemblies with track-linking mechanism  
[NASA-CASE-NPO-16321-1-CU] c 37 N87-17034

**TANKS (CONTAINERS)**

Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MSC-12280] c 27 N71-16348



- Method for leakage testing of tanks Patent  
[NASA-CASE-XMF-02392] c 32 N71-24285
- Floating baffle to improve efficiency of liquid transfer from tanks  
[NASA-CASE-KSC-10639] c 15 N73-26472
- Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029
- Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843
- TANTALUM**  
Thermionic tantalum emitter doped with oxygen Patent  
Application  
[NASA-CASE-NPO-11138] c 03 N70-34646
- Arc electrode of graphite with ball tip Patent  
[NASA-CASE-XLE-04788] c 09 N71-22987
- Trialkyl-dihalotantalum and niobium compounds Patent  
[NASA-CASE-XNP-04023] c 06 N71-28808
- Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c 35 N77-32454
- TANTALUM ALLOYS**  
Evaporant holder  
[NASA-CASE-XLA-03105] c 15 N69-27483
- Tantalum modified ferritic iron base alloys  
[NASA-CASE-LEW-12095-1] c 26 N78-18182
- TANTALUM CARBIDES**  
Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206
- TANTALUM OXIDES**  
Thin film temperature sensor and method of making same  
[NASA-CASE-NPO-11775] c 26 N72-28761
- TAPE RECORDERS**  
Plural recorder system  
[NASA-CASE-XMS-06949] c 09 N69-21467
- Endless tape transport mechanism Patent  
[NASA-CASE-XGS-01223] c 07 N71-10609
- Low friction magnetic recording tape Patent  
[NASA-CASE-XGS-00373] c 23 N71-15978
- Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420
- Synchronous servo loop control system Patent  
[NASA-CASE-XNP-03744] c 10 N71-20448
- Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710
- Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23001
- Tape recorder Patent  
[NASA-CASE-XGS-08259] c 14 N71-23698
- Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866
- A dc servosystem including an ac motor Patent  
[NASA-CASE-NPO-10700] c 07 N71-33613
- Recorder using selective noise filter  
[NASA-CASE-ERC-10112] c 07 N72-21119
- Scan converting video tape recorder  
[NASA-CASE-NPO-10166-1] c 07 N73-22076
- Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c 35 N76-16391
- Method of and means for testing a tape record/playback system  
[NASA-CASE-MFS-22671-2] c 35 N77-17426
- TAPERED COLUMNS**  
Method of making a rocket motor casing Patent  
[NASA-CASE-XLE-00409] c 28 N71-15658
- Rocket motor casing Patent  
[NASA-CASE-XLE-05689] c 28 N71-15659
- TAPERING**  
Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672
- TAPES**  
High intensity casting system  
[NASA-CASE-NPO-16901-1-CU] c 31 N87-15327
- TARGET ACQUISITION**  
Acquisition and tracking system for optical radar  
[NASA-CASE-MFS-20125] c 16 N72-13437
- Target acquisition antenna  
[NASA-CASE-GSC-10064-1] c 10 N72-22235
- Intruder detection system  
[NASA-CASE-ARC-10097-2] c 07 N73-25160
- TARGET RECOGNITION**  
Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980
- Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301
- TARGET SIMULATORS**  
Simulator method and apparatus for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MFS-23052-2] c 74 N79-13855
- Synthetic aperture radar target simulator  
[NASA-CASE-NPO-15024-1] c 32 N84-27951
- TARGETS**  
Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319
- Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
[NASA-CASE-NPO-14596-3] c 31 N83-31896
- Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266
- TEETH**  
Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862
- TEFLON (TRADEMARK)**  
Bonding of reinforced Teflon to metals  
[NASA-CASE-MFS-20482] c 15 N72-22492
- Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029
- Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664
- TELECOMMUNICATION**  
Adaptive compression of communication signals Patent  
[NASA-CASE-XLA-03076] c 07 N71-11266
- Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11281
- Signal-to-noise ratio estimating by taking ratio of mean and standard deviation of integrated signal samples Patent  
[NASA-CASE-XNP-05254] c 07 N71-20791
- Digital synchronizer Patent  
[NASA-CASE-NPO-10851] c 07 N71-24613
- Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917
- Two carrier communication system with single transmitter  
[NASA-CASE-NPO-11548] c 07 N73-26118
- Pseudonoise (PN) synchronization of data system with derivation of clock frequency from received signal for clocking receiver PN generator  
[NASA-CASE-XNP-03623] c 09 N73-28084
- Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c 32 N74-30523
- Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MFS-22671-1] c 35 N75-21582
- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c 32 N75-24981
- Method and apparatus for quadriphase-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192
- Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583
- TELEMETRY**  
Pressure variable capacitor  
[NASA-CASE-XNP-09752] c 14 N69-21541
- Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333
- Position location and data collection system and method Patent  
[NASA-CASE-GSC-10083-1] c 30 N71-16090
- Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699
- Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525
- Programmable telemetry system Patent  
[NASA-CASE-GSC-10131-1] c 07 N71-24624
- Temperature telemetric transmitter Patent  
[NASA-CASE-NPO-10649] c 07 N71-24840
- Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577
- Telemetry actuated switch  
[NASA-CASE-ARC-10105] c 09 N72-17153
- Flexible computer accessed telemetry  
[NASA-CASE-NPO-11358] c 07 N72-25172
- Digital control and information system  
[NASA-CASE-NPO-11016] c 08 N72-31226
- Multichannel telemetry system  
[NASA-CASE-NPO-11572] c 07 N73-16121
- Receiver with an improved phase lock loop in a multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c 07 N73-28012
- Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245
- Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491
- Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863
- Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348
- Adaptive data acquisition multiplexing system and method  
[NASA-CASE-MSC-21170-1] c 17 N88-24662
- A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220
- TELEOPERATORS**  
Cooperative multi-axis sensor for teleoperation of article manipulating apparatus  
[NASA-CASE-NPO-13386-1] c 54 N75-27758
- A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864
- TELEPHONES**  
Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310
- TELEPHONY**  
Digital communication system  
[NASA-CASE-MSC-13912-1] c 32 N74-30524
- TELESCOPES**  
Pneumatic mirror support system  
[NASA-CASE-XLA-03271] c 11 N69-24321
- Solar optical telescope dome control system Patent  
[NASA-CASE-MSC-10966] c 14 N71-19568
- Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627
- Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125
- Rotable accurate reflector system for telescopes Patent  
[NASA-CASE-NPO-10468] c 23 N71-33229
- Star image motion compensator  
[NASA-CASE-LAR-10523-1] c 14 N72-22444
- Light direction sensor  
[NASA-CASE-NPO-11201] c 14 N72-27409
- Boreoscope with variable angle scope  
[NASA-CASE-MFS-15162] c 14 N72-32452
- Ritchey-Chretien Telescope  
[NASA-CASE-GSC-11487-1] c 14 N73-30393
- Servo-controlled intravitral microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123
- Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138
- TELETYPEWRITER SYSTEMS**  
Video communication system and apparatus Patent  
[NASA-CASE-XNP-06611] c 07 N71-26102
- TELEVISION CAMERAS**  
Electrically-operated rotary shutter Patent  
[NASA-CASE-XNP-00637] c 14 N70-40273
- Digital television camera control system Patent  
[NASA-CASE-XNP-01472] c 14 N70-41807
- Solid state television camera system Patent  
[NASA-CASE-XMF-06092] c 07 N71-24612
- Color television system  
[NASA-CASE-MSC-12146-1] c 07 N72-17109
- TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c 39 N78-16387
- Optical conversion method --- for spacecraft television  
[NASA-CASE-MSC-12618-1] c 74 N78-17865
- Automatic weld torch guidance control system  
[NASA-CASE-MFS-25807] c 37 N83-20154
- Television camera video level control system  
[NASA-CASE-MSC-18578-1] c 32 N85-21427
- Wind dynamic range video camera  
[NASA-CASE-MFS-25750-1] c 32 N86-20647
- Automated weld torch guidance control system  
[NASA-CASE-MFS-25807-2] c 37 N86-21850
- TELEVISION EQUIPMENT**  
Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300
- Automatic closed circuit television arc guidance control Patent  
[NASA-CASE-MFS-13046] c 07 N71-19433
- Color television systems using a single gun color cathode ray tube Patent  
[NASA-CASE-ERC-10098] c 09 N71-28618
- Television multiplexing system  
[NASA-CASE-KSC-10654-1] c 07 N73-30115
- Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813
- Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014
- Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c 18 N76-14186
- System for producing chroma signals  
[NASA-CASE-MSC-14683-1] c 74 N77-18893
- TELEVISION RECEIVERS**  
Narrow bandwidth video Patent  
[NASA-CASE-XMS-06740-1] c 07 N71-26579

## TELEVISION RECEPTION

Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

## TELEVISION SYSTEMS

Method and means for an improved electron beam scanning system Patent  
[NASA-CASE-ERC-10552] c 09 N71-12539  
Burst synchronization detection system Patent  
[NASA-CASE-XMS-05605-1] c 10 N71-19468  
Narrow bandwidth video Patent  
[NASA-CASE-XMS-06740-1] c 07 N71-26579  
Stereoscopic television system and apparatus  
[NASA-CASE-ARC-10160-1] c 23 N72-27728  
Large TV display system  
[NASA-CASE-NPO-16932-1CU] c 33 N87-15413

## TELEVISION TRANSMISSION

Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c 09 N71-19449  
Automatic frequency control for FM transmitter  
[NASA-CASE-MFS-21540-1] c 32 N74-19790  
Television noise reduction device  
[NASA-CASE-MSC-12607-1] c 32 N75-21485

## TELLURIUM

Targets for producing high purity I-123  
[NASA-CASE-LEW-10518-3] c 25 N78-27226

## TEMPERATURE

Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098

## TEMPERATURE COMPENSATION

Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c 09 N70-35440  
Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00458] c 09 N70-38604  
Matched thermistors for microwave power meters Patent  
[NASA-CASE-NPO-10348] c 10 N71-12554  
Precision thrust gage Patent  
[NASA-CASE-XGS-02319] c 14 N71-22965  
Variable frequency oscillator with temperature compensation Patent  
[NASA-CASE-XNP-03916] c 09 N71-28810  
Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c 14 N71-30265  
Thermal compensating structural member  
[NASA-CASE-MFS-20433] c 15 N72-28496  
Temperature compensated light source using a light emitting diode  
[NASA-CASE-ARC-10467-1] c 09 N73-14214  
Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366  
Temperature compensated current source  
[NASA-CASE-MSC-11235] c 33 N78-17294  
Thermal compensating mount  
[NASA-CASE-LAR-13794-1] c 35 N88-24942

## TEMPERATURE CONTROL

Method and apparatus for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c 16 N69-31343  
Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979  
Thermal control of space vehicles Patent  
[NASA-CASE-XLA-01291] c 33 N70-36617  
Thermal switch Patent  
[NASA-CASE-XNP-00463] c 33 N70-36847  
Sandwich panel construction Patent  
[NASA-CASE-XLA-00349] c 33 N70-37979  
Device for suppressing sound and heat produced by high-velocity exhaust jets Patent  
[NASA-CASE-XMF-01813] c 28 N70-41582  
Solar cell including second surface mirrors Patent  
[NASA-CASE-NPO-10109] c 03 N71-11049  
Excessive temperature warning system Patent  
[NASA-CASE-XLA-01926] c 14 N71-15620  
Intermittent type silica gel adsorption refrigerator Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906  
Method and apparatus for controllably heating fluid Patent  
[NASA-CASE-XMF-04237] c 33 N71-16278  
Mount for thermal control system Patent  
[NASA-CASE-NPO-10138] c 33 N71-16357  
Transmission line thermal short Patent  
[NASA-CASE-XNP-09775] c 09 N71-20445  
Thermal control wall panel Patent  
[NASA-CASE-XLA-01243] c 33 N71-22792  
Thermal control panel Patent  
[NASA-CASE-XLA-07728] c 33 N71-22890  
Method and apparatus for varying thermal conductivity Patent  
[NASA-CASE-XNP-05524] c 33 N71-24876  
Temperature regulation circuit Patent  
[NASA-CASE-XNP-02792] c 14 N71-28958

Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
[NASA-CASE-MSC-13917-1] c 05 N72-15098  
Method for controlling vapor content of a gas  
[NASA-CASE-NPO-10633] c 03 N72-28025  
Atomic hydrogen maser with bulb temperature control to remove wall shift in maser output frequency  
[NASA-CASE-HQN-10654-1] c 16 N73-13489  
Pump for delivering heated fluids  
[NASA-CASE-NPO-11417] c 15 N73-24513  
Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c 05 N73-26071  
Temperature control system with a pulse width modulated bridge  
[NASA-CASE-NPO-11304] c 14 N73-26430  
Thermal control system for a spacecraft modular housing  
[NASA-CASE-GSC-11018-1] c 31 N73-30829  
Apparatus for controlling the temperature of balloon-borne equipment  
[NASA-CASE-GSC-11620-1] c 34 N74-23039  
Self-regulating proportionally controlled heating apparatus and technique  
[NASA-CASE-GSC-11752-1] c 77 N75-20140  
Rocket chamber and method of making  
[NASA-CASE-LEW-11118-2] c 20 N76-14191  
Thermostatically controlled non-tracking type solar energy concentrator  
[NASA-CASE-NPO-13497-1] c 44 N76-14602  
Multi-chamber controllable heat pipe  
[NASA-CASE-ARC-10199] c 34 N78-17337  
Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029  
Low heat leak connector for cryogenic system  
[NASA-CASE-XLE-02367-1] c 31 N79-21225  
Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523  
Automatic thermal switch  
[NASA-CASE-GSC-12415-1] c 33 N82-24419  
Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-3] c 34 N83-29625  
Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221  
Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307  
Method and apparatus for minimizing convection during crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968  
Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461  
High temperature acoustic levitator  
[NASA-CASE-NPO-16022-1] c 71 N85-22105  
Method and apparatus for growing crystals  
[NASA-CASE-MFS-28137-1] c 76 N88-24544  
Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

## TEMPERATURE DISTRIBUTION

Heat shield oven  
[NASA-CASE-XMS-04318] c 15 N69-27871  
Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
[NASA-CASE-GSC-12191-1] c 31 N80-32583  
Noncontact temperature pattern measuring device  
[NASA-CASE-NPO-17024-1-CU] c 35 N88-24943

## TEMPERATURE EFFECTS

Variable stiffness polymeric damper  
[NASA-CASE-XAC-11225] c 14 N69-27486  
Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816  
Fluid flow control valve Patent  
[NASA-CASE-XLE-00703] c 15 N71-15967  
Temperature sensitive flow regulator Patent  
[NASA-CASE-MFS-14259] c 15 N71-19213  
Thermally cycled magnetometer Patent  
[NASA-CASE-XAC-03740] c 14 N71-26135  
Radiometric temperature reference Patent  
[NASA-CASE-MSC-13276-1] c 14 N71-27058  
Low temperature cross linking polyimides  
[NASA-CASE-LEW-12876-2] c 27 N83-29392  
High performance mixed bisimide resins and composites based thereon  
[NASA-CASE-ARC-11538-1SB] c 24 N86-21590  
Poly(carbonate-mide) polymer  
[NASA-CASE-LAR-13292-1] c 27 N86-24841  
Process for curing bismaleimide resins  
[NASA-CASE-ARC-11429-4CU] c 27 N87-15304  
Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334

## TEMPERATURE GRADIENTS

Differential temperature transducer Patent  
[NASA-CASE-XAC-00812] c 14 N71-15598  
Temperature compensated light source using a light emitting diode  
[NASA-CASE-ARC-10467-1] c 09 N73-14214  
Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c 31 N74-18124  
Method and apparatus for checking fire detectors  
[NASA-CASE-GSC-11600-1] c 35 N74-21019  
Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680  
Temperature averaging thermal probe  
[NASA-CASE-GSC-12795-1] c 35 N86-19580  
High gradient directional solidification furnace  
[NASA-CASE-MFS-25963-1] c 35 N86-20750

## TEMPERATURE MEASUREMENT

Motion picture camera for optical pyrometry Patent  
[NASA-CASE-XLA-00062] c 14 N70-33254  
Apparatus for measuring thermal conductivity Patent  
[NASA-CASE-XGS-01052] c 14 N71-15592  
Thermocouple assembly Patent  
[NASA-CASE-XNP-01659] c 14 N71-23039  
Cavity radiometer Patent  
[NASA-CASE-XNP-08961] c 14 N71-24809  
Sensing probe  
[NASA-CASE-LEW-10281-1] c 14 N72-17327  
Apparatus for sensing temperature  
[NASA-CASE-XLE-05230] c 14 N72-27410  
Method of making apparatus for sensing temperature  
[NASA-CASE-XLE-05230-2] c 14 N73-13417  
Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-1] c 14 N73-14428  
Method of fabricating an article with cavities --- with thin bottom walls  
[NASA-CASE-LAR-10318-1] c 31 N74-18089  
Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c 25 N74-18551  
Wind sensor  
[NASA-CASE-NPO-13462-1] c 35 N76-24524  
Miniature ingestible telemeter devices to measure deep-body temperature  
[NASA-CASE-XC-10583-1] c 52 N76-29894  
Thermocouple, multiple junction reference oven  
[NASA-CASE-FRC-10112-1] c 35 N81-26431  
Multi-channel temperature measurement amplification system --- solar heating systems  
[NASA-CASE-MFS-23775-1] c 44 N82-16474  
Solar energy control system --- temperature measurement  
[NASA-CASE-MFS-25287-1] c 44 N82-18686  
Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639  
Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723  
Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618  
Temperature sensitive oscillator  
[NASA-CASE-GSC-12958-1] c 33 N86-32624  
Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
[NASA-CASE-LAR-13740-1] c 35 N88-30105  
Threaded average temperature thermocouple  
[NASA-CASE-LAR-13475-1] c 35 N89-13763

## TEMPERATURE MEASURING INSTRUMENTS

Excessive temperature warning system Patent  
[NASA-CASE-XLA-01926] c 14 N71-15620  
Condition and condition duration indicator Patent  
[NASA-CASE-XMF-01097] c 10 N71-16058  
Thermal detector of electromagnetic energy by means of a vibrating electrode Patent  
[NASA-CASE-XAC-10768] c 09 N71-18830  
Method and means for providing an absolute power measurement capability Patent  
[NASA-CASE-ERC-11020] c 14 N71-26774  
High intensity radiant energy pulse source having means for opening shutter when light flux has reached a desired level  
[NASA-CASE-ARC-10178-1] c 09 N72-17152  
Thermocouple tape  
[NASA-CASE-LEW-11072-1] c 14 N73-24472  
Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c 35 N77-32454  
Temperature averaging thermal probe  
[NASA-CASE-GSC-12795-1] c 35 N86-19580

## TEMPERATURE PROBES

- Temperature-compensating means for cavity resonator of amplifier Patent  
[NASA-CASE-XNP-00449] c 14 N70-35220
- Sensing probe  
[NASA-CASE-LEW-10281-1] c 14 N72-17327
- Temperature averaging thermal probe  
[NASA-CASE-GSC-12795-1] c 35 N86-19580

## TEMPERATURE PROFILES

- Exothermic furnace module  
[NASA-CASE-MFS-25707-1] c 35 N82-26631

## TEMPERATURE SENSORS

- Compensating radiometer  
[NASA-CASE-XLA-04556] c 14 N69-27484
- Thermobulb mount Patent  
[NASA-CASE-NPO-10158] c 33 N71-16356
- Mount for thermal control system Patent  
[NASA-CASE-NPO-10138] c 33 N71-16357
- Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085
- Temperature telemetric transmitter Patent  
[NASA-CASE-NPO-10649] c 07 N71-24840
- Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475
- Thin film capacitive bolometer and temperature sensor Patent  
[NASA-CASE-NPO-10607] c 09 N71-27232
- Thin film temperature sensor and method of making same  
[NASA-CASE-NPO-11775] c 26 N72-28761
- Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-2] c 35 N75-25122
- Optical crystal temperature gauge with fiber optic connections  
[NASA-CASE-MSC-18627-1] c 74 N82-30071
- Temperature sensitive oscillator  
[NASA-CASE-GSC-12958-1] c 33 N86-32624

## TEMPLATES

- Microcircuit negative cutter  
[NASA-CASE-XLA-09843] c 15 N72-27485

## TENSILE STRENGTH

- Method of making fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-00231] c 17 N70-38198
- Reinforced metallic composites Patent  
[NASA-CASE-XLE-00228] c 17 N70-38490
- Apparatus for tensile testing Patent  
[NASA-CASE-XKS-06250] c 14 N71-15600
- Method for fiberizing ceramic materials Patent  
[NASA-CASE-XNP-00597] c 18 N71-23088
- Tensile strength testing device Patent  
[NASA-CASE-XNP-05634] c 15 N71-24834
- Device for use in loading tension members --- characterized by elongated elastic body  
[NASA-CASE-MFS-21488-1] c 14 N75-24794
- Method of carbonizing polyacrylonitrile fibers  
[NASA-CASE-ARC-11261-1] c 24 N83-25789
- Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841
- Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575
- Heat treatment for superalloy  
[NASA-CASE-LEW-14262-1] c 26 N87-28647

## TENSILE STRESS

- Rocket nozzle test method Patent  
[NASA-CASE-NPO-10311] c 31 N71-15643
- Device for measuring tensile forces  
[NASA-CASE-MFS-21728-1] c 35 N74-27865
- Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c 44 N74-33379

## TENSILE TESTS

- Apparatus for tensile testing Patent  
[NASA-CASE-XKS-06250] c 14 N71-15600
- Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878
- Tensile strength testing device Patent  
[NASA-CASE-XNP-05634] c 15 N71-24834
- Apparatus for remote measurement of displacement of marks on a specimen undergoing a tensile test  
[NASA-CASE-NPO-10778] c 14 N72-11364
- Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c 09 N74-19528
- Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c 35 N76-18400
- Device for tensioning test specimens within an hermetically sealed chamber  
[NASA-CASE-MFS-23281-1] c 35 N77-22450
- Method and apparatus for gripping uniaxial fibrous composite materials  
[NASA-CASE-LEW-13758-1] c 24 N84-27829
- Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375

Fatigue testing a plurality of test specimens and method

- [NASA-CASE-MFS-28118-1] c 39 N87-25601
- Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361
- Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967

## TENSION

- Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615

## TERMINAL GUIDANCE

- Energy management system for glider type vehicle Patent  
[NASA-CASE-XFR-00756] c 02 N71-13421
- Terminal guidance system --- for guiding aircraft into preselected altitude and/or heading at terminal point  
[NASA-CASE-FRC-10049-1] c 04 N74-13420
- Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519

## TERNARY SYSTEMS

- Nicral ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505
- Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868

## TERRAIN

- Landing gear Patent  
[NASA-CASE-XMF-01174] c 02 N70-41589

## TERRAIN ANALYSIS

- Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391
- Method for observing the features characterizing the surface of a land mass  
[NASA-CASE-FRC-11013-1] c 43 N81-17499

## TEST CHAMBERS

- Exposure system for animals Patent  
[NASA-CASE-XAC-05333] c 11 N71-22875
- Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent  
[NASA-CASE-XMS-02930] c 11 N71-23042
- Flammability test chamber Patent  
[NASA-CASE-KSC-10126] c 11 N71-24985
- Pressure seal Patent  
[NASA-CASE-NPO-10796] c 15 N71-27068
- Autoignition test cell Patent  
[NASA-CASE-KSC-10198] c 11 N71-28629
- Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992
- Method for measuring biaxial stress in a body subjected to stress inducing loads  
[NASA-CASE-MFS-23299-1] c 39 N77-28511
- Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MSC-20622-1] c 25 N86-19413

## TEST EQUIPMENT

- Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391
- Apparatus for tensile testing Patent  
[NASA-CASE-XKS-06250] c 14 N71-15600
- Black-body furnace Patent  
[NASA-CASE-XLE-01399] c 33 N71-15625
- Thermocouple assembly Patent  
[NASA-CASE-XNP-01659] c 14 N71-23039
- Automatic fatigue test temperature programmer Patent  
[NASA-CASE-XLA-02059] c 33 N71-24276
- Pulse rise time and amplitude detector Patent  
[NASA-CASE-XMF-08804] c 09 N71-24717
- Resilience testing device Patent  
[NASA-CASE-XLA-08254] c 14 N71-26161
- Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292
- Apparatus for testing wiring harness by vibration generating means  
[NASA-CASE-MSC-15158-1] c 14 N72-17325
- Atmospheric sampling devices  
[NASA-CASE-NPO-11373] c 13 N72-25323
- Burn rate testing apparatus  
[NASA-CASE-XMS-09690] c 33 N72-25913
- Linear explosive comparison  
[NASA-CASE-LAR-10800-1] c 33 N72-27959
- Apparatus for vibrational testing of articles  
[NASA-CASE-GSC-11302-1] c 14 N73-13416
- Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267
- Rocket borne instrument to measure electric fields inside electrified clouds  
[NASA-CASE-KSC-10730-1] c 14 N73-32318
- Compression test assembly  
[NASA-CASE-LAR-10440-1] c 14 N73-32323

- Wind tunnel model and method  
[NASA-CASE-LAR-10812-1] c 09 N74-17955
- Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c 09 N74-19528
- Method and apparatus for checking fire detectors  
[NASA-CASE-GSC-11600-1] c 35 N74-21019
- Battery testing device --- for testing cells of multiple-cell battery  
[NASA-CASE-MFS-20761-1] c 44 N74-27519
- Signal conditioner test set  
[NASA-CASE-KSC-10750-1] c 35 N75-12270
- Particulate and aerosol detector  
[NASA-CASE-LAR-11434-1] c 35 N76-22509
- High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c 35 N76-24523
- Method of and means for testing a tape record/playback system  
[NASA-CASE-MFS-22671-2] c 35 N77-17426
- Method of and means for testing a glancing-incidence mirror system of an X-ray telescope  
[NASA-CASE-MFS-22409-2] c 74 N78-15880
- Almond test body --- for microwave anechoic chambers  
[NASA-CASE-LAR-13747-1] c 32 N88-24845
- Threaded average temperature thermocouple  
[NASA-CASE-LAR-13475-1] c 35 N89-13763

## TEST FACILITIES

- Electric propulsion engine test chamber Patent  
[NASA-CASE-XLE-00252] c 11 N70-34844
- High temperature testing apparatus Patent  
[NASA-CASE-XLE-00335] c 14 N70-35368
- Gas analyzer for bi-gaseous mixtures Patent  
[NASA-CASE-XLA-01131] c 14 N71-10774
- Model launcher for wind tunnels Patent  
[NASA-CASE-XNP-03578] c 11 N71-23030
- Shock tube bypass piston tunnel  
[NASA-CASE-NPO-12109] c 11 N72-22245

## TEST STANDS

- Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545
- Micro-pound extended range thrust stand Patent  
[NASA-CASE-GSC-10710-1] c 28 N71-27094
- Device for quick changeover between wind tunnel force and pressure testing  
[NASA-CASE-LAR-13512-1] c 35 N87-28884

## TEST VEHICLES

- Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768

## TETHERED SATELLITES

- Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119

## TETHERING

- Cable arrangement for rigid tethering Patent  
[NASA-CASE-XLA-02332] c 32 N71-17609
- Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936

## TETHERLINES

- Flexible/rigidifiable cable assembly  
[NASA-CASE-MSC-13512-1] c 15 N72-22485
- Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119
- Coaxial tube tether/transmission line for manned nuclear space power  
[NASA-CASE-LEW-14338-1] c 20 N87-10174
- Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037

## TETRAETHYL ORTHOSILICATE

- Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18737-1] c 24 N83-13171
- Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18736-1] c 24 N83-13172

## TETRAPHENYLS

- Metal containing polymers from cyclic tetrameric phenylphosphonitrilamides Patent  
[NASA-CASE-HGN-10364] c 06 N71-27363

## TEXTILES

- Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MSC-14331-1] c 27 N76-24405

## TEXTS

- Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372

## TEXTURES

- Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437
- Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440
- Surface texturing of fluoropolymers  
[NASA-CASE-LEW-13028-1] c 27 N82-33521

## THERAPY

Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117

## THERAPY

Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996

## THERMAL ABSORPTION

Constant temperature heat sink for calorimeters Patent  
[NASA-CASE-XMF-04208] c 33 N71-29051  
Solar pond  
[NASA-CASE-NPO-13581-2] c 44 N78-31525

## THERMAL ANALYSIS

Thermal remote anemometer system  
[NASA-CASE-LAR-13508-1] c 35 N88-23962

## THERMAL COMFORT

Thermal garment  
[NASA-CASE-XMS-03694-1] c 54 N82-29002

## THERMAL CONDUCTIVITY

Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
[NASA-CASE-XLE-00266] c 14 N70-34156  
Apparatus for measuring thermal conductivity Patent  
[NASA-CASE-XGS-01052] c 14 N71-15992  
Heated element fluid flow sensor Patent  
[NASA-CASE-MS-C-12064-1] c 12 N71-17553  
Method and apparatus for varying thermal conductivity Patent  
[NASA-CASE-XNP-05524] c 33 N71-24876  
Thermally conductive polymers  
[NASA-CASE-GSC-11304-1] c 06 N72-21105  
Electrostatically controlled heat shutter  
[NASA-CASE-NPO-11942-1] c 33 N73-32818  
Thermal barrier coating system  
[NASA-CASE-LEW-12554-1] c 34 N78-18355  
Support assembly for cryogenically coolable low-noise choke waveguide  
[NASA-CASE-NPO-14253-1] c 32 N80-32605  
Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356  
Hazards protection for space suits and spacecraft  
[NASA-CASE-MS-C-21366-1] c 54 N89-12206

## THERMAL CONDUCTORS

Thermal conductive connection and method of making same Patent  
[NASA-CASE-XMS-02087] c 09 N70-41717  
Solar energy absorber  
[NASA-CASE-MFS-22743-1] c 44 N76-22657

## THERMAL CONTROL COATINGS

Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047  
Stabilized zinc oxide coating compositions Patent  
[NASA-CASE-XMF-07770-2] c 18 N71-26772  
Inorganic thermal control coatings  
[NASA-CASE-MFS-20011] c 18 N72-22566  
Polymeric vehicles as carriers for sulfonic acid salt of nitrosubstituted aromatic amines  
[NASA-CASE-ARC-10325] c 06 N72-25147  
Refractory porcelain enamel passive control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c 27 N75-27160  
Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-LAR-10805-2] c 34 N77-18382  
Method of preparing zinc orthotitanate pigment  
[NASA-CASE-MFS-23345-1] c 27 N77-30237  
Intumescent coatings containing 4,4'-dinitrosulfanilide  
[NASA-CASE-ARC-11042-1] c 24 N78-14096  
Thermal barrier coating system  
[NASA-CASE-LEW-12554-1] c 34 N78-18355  
High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302  
Intumescent-ablator coatings using endothermic fillers  
[NASA-CASE-ARC-11043-1] c 24 N78-27180  
Lightweight electrically-powered flexible thermal laminate --- made of metal and nonconductive yarns  
[NASA-CASE-MS-C-12662-1] c 33 N79-12331  
Electrically conductive thermal control coatings  
[NASA-CASE-GSC-12207-1] c 24 N79-14156  
High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448  
Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449

**THERMAL DEGRADATION**  
Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146  
Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186

## THERMAL DIFFUSIVITY

Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes in utilizing the transient thermal lens effect  
[NASA-CASE-NPO-14657-1] c 74 N81-17887

## THERMAL EMISSION

Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186  
Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178

## THERMAL ENERGY

Energy conversion apparatus Patent  
[NASA-CASE-XLE-00212] c 03 N70-34134  
Device for directionally controlling electromagnetic radiation Patent  
[NASA-CASE-XLE-01716] c 09 N70-40234  
Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155  
Gas core nuclear reactor Patent  
[NASA-CASE-LEW-10250-1] c 22 N71-28759  
Electrostatically controlled heat shutter  
[NASA-CASE-NPO-11942-1] c 33 N73-32818  
Solid medium thermal engine  
[NASA-CASE-ARC-10481-1] c 44 N74-33379  
Panel for selectively absorbing solar thermal energy and the method of producing said panel  
[NASA-CASE-MFS-22562-1] c 44 N76-14595  
Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667  
Low to high temperature energy conversion system  
[NASA-CASE-NPO-13510-1] c 44 N77-32581  
Thermal energy transformer  
[NASA-CASE-NPO-14058-1] c 44 N79-18443  
Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029  
Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

## THERMAL EXPANSION

Thermally operated valve Patent  
[NASA-CASE-XLE-00815] c 15 N70-35407  
Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123  
Thermal motor  
[NASA-CASE-NPO-11283] c 09 N72-25260  
Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063  
Daze fasteners  
[NASA-CASE-LAR-13009-1] c 37 N85-29285  
Thermal compensating mount  
[NASA-CASE-LAR-13794-1] c 35 N88-24942  
High effectiveness contour matching contact heat exchanger  
[NASA-CASE-MS-C-20840-1] c 34 N88-29132

## THERMAL FATIGUE

Automatic fatigue test temperature programmer Patent  
[NASA-CASE-XLA-02059] c 33 N71-24276

## THERMAL INSULATION

Piping arrangement through a double chamber structure  
[NASA-CASE-XNP-08882] c 15 N69-39935  
Insulating structure Patent  
[NASA-CASE-XMF-00341] c 15 N70-33323  
Unified-ceramic flame-resistant insulation and method of making the same Patent  
[NASA-CASE-XMF-01030] c 18 N70-41583  
Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015  
Lightweight refractory insulation and method of preparing the same Patent  
[NASA-CASE-XMF-05279] c 18 N71-16124  
Heat protection apparatus Patent  
[NASA-CASE-XLA-00892] c 33 N71-17897  
Cryogenic insulation system Patent  
[NASA-CASE-XLE-04222] c 23 N71-22881  
Insulation system Patent  
[NASA-CASE-XLE-02647] c 18 N71-23658  
Filament wound container Patent  
[NASA-CASE-XLE-03803] c 15 N71-23816  
Panelized high performance multilayer insulation Patent  
[NASA-CASE-MFS-14023] c 33 N71-25351  
Isothermal cover with thermal reservoirs Patent  
[NASA-CASE-MFS-20355] c 33 N71-25353  
Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MS-C-12109] c 18 N71-26285  
Thickness measuring and injection device Patent  
[NASA-CASE-MFS-20261] c 14 N71-27005  
Cryogenic thermal insulation Patent  
[NASA-CASE-XMF-05046] c 33 N71-28892

Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572

Thermal control system for a spacecraft modular housing  
[NASA-CASE-GSC-11018-1] c 31 N73-30829  
Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093  
Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c 27 N74-27037  
High current electrical lead --- for thermionic converters  
[NASA-CASE-LEW-10950-1] c 33 N74-27683  
Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c 34 N75-12222  
Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MS-C-14182-1] c 27 N76-14264  
Auger attachment method for insulation --- of spacecraft  
[NASA-CASE-MS-C-12615-1] c 37 N76-19437  
Flexible pile thermal barrier insulator  
[NASA-CASE-MS-C-19568-1] c 34 N78-25350  
Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MS-C-12619-2] c 27 N79-12221  
Fibrous refractory composite insulation --- shielding reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062  
Thermal insulation protection means  
[NASA-CASE-MS-C-12737-1] c 24 N79-25142  
Installing fiber insulation  
[NASA-CASE-MS-C-16973-1] c 37 N81-14317  
Process for the preparation of polycarbonylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271  
Carboranylchlorophosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389  
A method and technique for installing light-weight fragile, high-temperature fiber insulation  
[NASA-CASE-MS-C-18934-3] c 24 N82-26387  
Thermal garment  
[NASA-CASE-XMS-03694-1] c 54 N82-29002  
Method and technique for installing light-weight, fragile, high-temperature fiber insulation  
[NASA-CASE-MS-C-16934-3] c 24 N84-16262  
Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126  
Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841  
Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628  
Lightweight ceramic insulation and method  
[NASA-CASE-MS-C-20782-1] c 27 N89-13620

**THERMAL MAPPING**  
Noncontact temperature pattern measuring device  
[NASA-CASE-NPO-17024-1-CU] c 35 N88-24943

**THERMAL PLASMAS**  
Continuous plasma light source  
[NASA-CASE-XNP-04167-2] c 25 N72-24753

**THERMAL PROTECTION**  
Thermo-protective device for balances Patent  
[NASA-CASE-XAC-00648] c 14 N70-40400  
Ablation structures Patent  
[NASA-CASE-XMS-01816] c 33 N71-15623  
Spacecraft radiator cover Patent  
[NASA-CASE-MS-C-12049] c 31 N71-16080  
Foamed in place ceramic refractory insulating material Patent  
[NASA-CASE-XGS-02435] c 18 N71-22998  
Ceramic insulation for radiant heating environments and method of preparing the same Patent  
[NASA-CASE-MFS-14253] c 33 N71-24858  
Solid state thermal control polymer coating Patent  
[NASA-CASE-XLA-01745] c 33 N71-28903  
Temperature reducing coating for metals subject to flame exposure Patent  
[NASA-CASE-XLE-00035] c 33 N71-29151  
Stand-off type ablative heat shield  
[NASA-CASE-MS-C-12143-1] c 33 N72-17947  
Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c 27 N74-12814  
Adjustable securing base  
[NASA-CASE-MS-C-19666-1] c 37 N78-17383  
Reaction cured glass and glass coatings  
[NASA-CASE-ARC-11051-1] c 27 N78-32260  
Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188

- Attachment system for silica tiles --- thermal protection for space shuttle orbiter  
[NASA-CASE-MSC-18741-1] c 27 N82-29456
- Multilayer thermal protection system  
[NASA-CASE-LAR-12620-1] c 24 N82-32417
- High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908
- Silicon-slurry/aluminide coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795
- Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855
- Covering solid, film cooled surfaces with a duplex thermal barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177
- Pre-stressed thermal protection systems  
[NASA-CASE-MSC-20254-1] c 16 N84-22601
- Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886
- Propulsion apparatus and method using boil-off gas from a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368
- Process for preparing essentially colorless polyimide film containing phenoxy-linked diamines  
[NASA-CASE-LAR-13353-1] c 27 N86-29039
- Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727
- Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978
- THERMAL RADIATION**
- Compensating radiometer  
[NASA-CASE-XLA-04556] c 14 N69-27484
- Temperature sensitive capacitor device  
[NASA-CASE-XNP-09750] c 14 N69-39937
- High temperature heat source Patent  
[NASA-CASE-XLE-00490] c 33 N70-34545
- Thermal radiation shielding Patent  
[NASA-CASE-XLE-03432] c 33 N71-24145
- Cavity radiometer Patent  
[NASA-CASE-XNP-08961] c 14 N71-24809
- Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c 33 N71-28852
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373
- THERMAL REACTORS**
- Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920
- THERMAL RESISTANCE**
- Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796
- Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c 27 N74-12812
- Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c 34 N74-15652
- Self-regulating proportionally controlled heating apparatus and technique  
[NASA-CASE-GSC-11752-1] c 77 N75-20140
- Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-1] c 27 N78-32256
- Ambient cure polyimide foams --- thermal resistant foams  
[NASA-CASE-ARC-11170-1] c 27 N79-11215
- The 1,2,4-oxadiazole elastomers --- heat resistant polymers  
[NASA-CASE-ARC-11253-1] c 27 N81-17262
- Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MSC-18422-1] c 37 N82-16408
- Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-2] c 54 N84-23113
- Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-1] c 54 N84-28484
- Thermal barrier coating system  
[NASA-CASE-LEW-13324-2] c 24 N85-21266
- High temperature polyimide film laminates and process for preparation thereof  
[NASA-CASE-LAR-13384-1] c 27 N86-20561
- Fire resistant polyamide based on 1-(diorganoxyphosphoryl)methyl-2,4- and -2,6-diaminobenzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568
- Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-1] c 27 N87-23751
- Method of making a flexible diaphragm  
[NASA-CASE-MSC-20797-1] c 37 N87-23981
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorganoxyphosphoryl) methyl -2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564
- Fire and heat resistant laminating resin based on maleimido and citraconimido substituted 1-(diorganoxyphosphoryl-methyl)-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-2] c 27 N89-16042
- THERMAL SHOCK**
- Thermal shock apparatus Patent  
[NASA-CASE-XLE-02024] c 14 N71-22964
- Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c 18 N73-14584
- Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206
- Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996
- THERMAL SIMULATION**
- Thermopile vacuum gage tube simulator Patent  
[NASA-CASE-XLA-02758] c 14 N71-18481
- THERMAL STABILITY**
- Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400
- Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203
- Metal containing polymers from cyclic tetrameric phenylphosphonitrimides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363
- Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c 27 N74-21156
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315
- Sound-suppressing structure with thermal relief  
[NASA-CASE-LEW-12658-1] c 71 N79-14871
- Infusible silazane polymer and process for producing same --- protective coatings  
[NASA-CASE-XMF-02526-1] c 27 N79-21190
- Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307
- Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206
- Low temperature cross linking polyimides  
[NASA-CASE-LEW-12976-2] c 27 N83-29392
- Metal phthalocyanine polymers  
[NASA-CASE-ARC-11405-1] c 27 N84-27884
- High temperature resistant polyimide from tetra ester, diamine, diester and N-arylnadimide  
[NASA-CASE-LEW-13864-1] c 27 N86-19457
- Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-2] c 27 N86-21675
- Sulfone-ester polymers containing pendent ethynyl groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450
- THERMAL STRESSES**
- Strain gage Patent Application  
[NASA-CASE-FRC-10053] c 14 N70-35587
- Multilegged support system Patent  
[NASA-CASE-XLA-01326] c 11 N71-21481
- Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877
- Apparatus and method for reducing thermal stress in a turbine rotor  
[NASA-CASE-LEW-12232-1] c 07 N79-10057
- Method for alleviating thermal stress damage in laminates --- metal matrix composites  
[NASA-CASE-LEW-12493-1] c 24 N81-17170
- Method for alleviating thermal stress damage in laminates  
[NASA-CASE-LEW-12493-2] c 24 N81-26179
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674
- Daze fasteners  
[NASA-CASE-LAR-13009-1] c 37 N85-29285
- Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978
- THERMIONIC CATHODES**
- Cavity emitter for thermionic converter Patent  
[NASA-CASE-NPO-10412] c 09 N71-28421
- THERMIONIC CONVERTERS**
- Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898
- Thermionic converter with current augmented by self induced magnetic field Patent  
[NASA-CASE-XLE-01903] c 22 N71-23599
- Cavity emitter for thermionic converter Patent  
[NASA-CASE-NPO-10412] c 09 N71-28421
- Solar cell Patent  
[NASA-CASE-ARC-10050] c 03 N71-33409
- Uninsulated in-core thermionic diode  
[NASA-CASE-NPO-10542] c 09 N72-27228
- High current electrical lead --- for thermionic converters  
[NASA-CASE-LEW-10950-1] c 33 N74-27683
- Electric power generation system directory from laser power  
[NASA-CASE-NPO-13308-1] c 36 N75-30524
- Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891
- High thermal power density heat transfer --- thermionic converters  
[NASA-CASE-LEW-12950-1] c 34 N82-11399
- Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175
- THERMIONIC DIODES**
- Heat pipe thermionic diode power system Patent  
[NASA-CASE-XMF-05843] c 03 N71-11055
- Thermionic diode switch Patent  
[NASA-CASE-NPO-10404] c 03 N71-12255
- Micro current measuring device using plural logarithmic response heated filamentary type diodes Patent  
[NASA-CASE-XNP-00384] c 09 N71-13530
- Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114] c 33 N71-27862
- Uninsulated in-core thermionic diode  
[NASA-CASE-NPO-10542] c 09 N72-27228
- THERMIONIC EMITTERS**
- Thermionic tantalum emitter doped with oxygen Patent Application  
[NASA-CASE-NPO-11138] c 03 N70-34646
- THERMIONIC POWER GENERATION**
- Control for nuclear thermionic power source  
[NASA-CASE-NPO-13114-2] c 73 N78-28913
- High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12950-2] c 34 N85-29179
- Thermionic photovoltaic energy converter  
[NASA-CASE-LEW-14077-1] c 44 N85-34441
- THERMISTORS**
- Matched thermistors for microwave power meters Patent  
[NASA-CASE-NPO-10348] c 10 N71-12554
- Thermistor holder for skin temperature measurements  
[NASA-CASE-ARC-10855-1] c 52 N77-10780
- Wedge immersed thermistor bolometers  
[NASA-CASE-XGS-01245-1] c 35 N79-33449
- THERMOCHEMISTRY**
- Thermochemical generation of hydrogen  
[NASA-CASE-NPO-15015-1] c 25 N82-28368
- THERMOCHROMATIC MATERIALS**
- Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-1] c 14 N73-14428
- Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-2] c 35 N75-25122
- THERMOCOUPLE PYROMETERS**
- Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c 34 N74-15652
- THERMOCOUPLES**
- Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459
- Gas cooled high temperature thermocouple Patent  
[NASA-CASE-XLE-09475-1] c 33 N71-15568
- Weld control system using thermocouple wire Patent  
[NASA-CASE-MFS-06074] c 15 N71-20393
- Heat sensing instrument Patent  
[NASA-CASE-XLA-01551] c 14 N71-22989
- Thermocouple assembly Patent  
[NASA-CASE-XNP-01659] c 14 N71-23039
- Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199
- Apparatus for sensing temperature  
[NASA-CASE-XI-F-05230] c 14 N72-27410
- Method of making apparatus for sensing temperature  
[NASA-CASE-XLE-05230-2] c 14 N73-13417
- Butt welder for fine gauge tungsten/rhenium thermocouple wire  
[NASA-CASE-LAR-10103-1] c 15 N73-14468
- Thermocouple tape  
[NASA-CASE-LEW-11072-1] c 14 N73-24472
- Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c 35 N76-15434

## THERMODYNAMIC CYCLES

- Thermocouple installation  
[NASA-CASE-NPO-13540-1] c 35 N77-14409
- Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c 35 N77-32454
- Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346
- Thermocouple, multiple junction reference oven  
[NASA-CASE-FRC-10112-1] c 35 N81-26431
- Solar energy control system --- temperature measurement  
[NASA-CASE-MFS-25287-1] c 44 N82-18686
- Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338
- Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151
- Threaded average temperature thermocouple  
[NASA-CASE-LAR-13475-1] c 35 N89-13763

## THERMODYNAMIC CYCLES

- Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640

## THERMODYNAMIC EFFICIENCY

- Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483

## THERMODYNAMIC PROPERTIES

- Thermal shock apparatus Patent  
[NASA-CASE-XLE-02024] c 14 N71-22964
- Foamed in place ceramic refractory insulating material Patent  
[NASA-CASE-XGS-02435] c 18 N71-22998
- Superconducting magnet Patent  
[NASA-CASE-XNP-06503] c 23 N71-29049
- Cobalt-base alloy  
[NASA-CASE-LEW-10436-1] c 17 N73-32415
- High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191
- Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-5] c 27 N85-21352
- Fire resistant polyamide based on 1-(diorganooxyphosphonyl)methyl-2,4- and -2,6diamino benzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568

## THERMODYNAMICS

- Joule Thomson refrigerator  
[NASA-CASE-NPO-17143-1-CU] c 31 N89-14351

## THERMOELECTRIC GENERATORS

- Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146
- Segmenting lead telluride-silicon germanium thermoelements Patent  
[NASA-CASE-XGS-05718] c 26 N71-16037
- Integrated thermoelectric generator/space antenna combination  
[NASA-CASE-XER-09521] c 09 N72-12136
- Thermally cascaded thermoelectric generator  
[NASA-CASE-NPO-10753] c 03 N72-26031

## THERMOELECTRIC MATERIALS

- Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786
- Segmenting lead telluride-silicon germanium thermoelements Patent  
[NASA-CASE-XGS-05718] c 26 N71-16037
- Stabilized lanthanum sulphur compounds --- thermoelectric materials  
[NASA-CASE-NPO-16135-1] c 25 N83-24572

## THERMOELECTRIC POWER GENERATION

- Two-fluid magnetohydrodynamic system and method for thermal-electric power conversion Patent  
[NASA-CASE-XNP-00644] c 03 N70-36803
- Combined electrolysis device and fuel cell and method of operation Patent  
[NASA-CASE-XLE-01645] c 03 N71-20904
- Thermoelectric power system --- for spacecraft  
[NASA-CASE-MFS-22002-1] c 44 N76-16612

## THERMOELECTRICITY

- Thermocouple tape  
[NASA-CASE-LEW-11072-1] c 14 N73-24472
- Apparatus and method for measuring the Seebeck coefficient and resistivity of materials  
[NASA-CASE-NPO-11749] c 14 N73-28486
- Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358

## THERMOLUMINESCENCE

- Method of detecting oxygen in a gas  
[NASA-CASE-LAR-10668-1] c 06 N73-16106
- Thermoluminescent aerosol analysis  
[NASA-CASE-LAR-12046-1] c 25 N78-15210

## THERMOMAGNETIC EFFECTS

- Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c 36 N74-13205

- Thermomagnetic recording and magnetic-optic playback system  
[NASA-CASE-NPO-10872-1] c 35 N79-16246

## THERMOMETERS

- Platinum resistance thermometer circuit  
[NASA-CASE-MSC-12327-1] c 35 N77-27368
- Temperature sensitive oscillator  
[NASA-CASE-GSC-12958-1] c 33 N86-32624

## THERMOPHYSICAL PROPERTIES

- Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c 25 N74-18551
- Apparatus for determining thermophysical properties of test specimens  
[NASA-CASE-LAR-11883-1] c 09 N77-27131

## THERMOPILES

- Differential temperature transducer Patent  
[NASA-CASE-XAC-00812] c 14 N71-15598
- Horizon sensor with a plurality of fixedly positioned radiation compensated radiation sensitive detectors Patent  
[NASA-CASE-XNP-06957] c 14 N71-21088
- Irradiance measuring device  
[NASA-CASE-NPO-11493] c 14 N73-12447

## THERMOPLASTIC FILMS

- Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708
- Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12881-1] c 27 N84-14323
- Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324
- Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083
- Polyphenylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814

## THERMOPLASTIC RESINS

- Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233
- Thermoplastic rubber comprising ethylene-vinyl acetate copolymer, asphalt and fluxing oil  
[NASA-CASE-NPO-08835-1] c 27 N78-33228
- Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076
- Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268
- One-step dual purpose joining technique  
[NASA-CASE-LAR-12595-1] c 33 N82-26571
- Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708
- Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176
- Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040
- Solvent resistant thermoplastic aromatic poly(imidesulfone) and process for preparing same  
[NASA-CASE-LAR-12858-1] c 27 N83-34041
- Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-1] c 27 N84-22747
- Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125
- Phenoxy resins containing pendant ethynyl groups and cured resins obtained therefrom  
[NASA-CASE-LAR-13262-1] c 23 N85-28973
- Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848
- Pultrusion die assembly  
[NASA-CASE-LAR-13719-1] c 37 N89-12867

## THERMOPLASTICITY

- Process for preparing thermoplastic aromatic polyimides  
[NASA-CASE-LAR-11828-1] c 27 N78-32261
- Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238
- Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-2] c 27 N84-22746
- Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-1] c 27 N85-20123

- Process for preparing solvent resistant, thermoplastic aromatic poly(imidesulfone)  
[NASA-CASE-LAR-12858-2] c 27 N85-20124

## THERMOREGULATION

- Garments for controlling the temperature of the body Patent  
[NASA-CASE-XMS-10269] c 05 N71-24147

## THERMOSETTING RESINS

- Method for molding compounds Patent  
[NASA-CASE-XLA-01091] c 15 N71-10672
- Method and apparatus for bonding a plastics sleeve onto a metallic body Patent  
[NASA-CASE-XLA-01262] c 15 N71-21404
- Honeycomb panel and method of making same Patent  
[NASA-CASE-XMF-01402] c 18 N71-21651
- Method of forming shapes from planar sheets of thermosetting materials  
[NASA-CASE-NPO-11036] c 15 N72-24522
- Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-2] c 06 N72-27151
- Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c 31 N74-14133
- Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10469-1] c 31 N74-10124
- Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c 31 N75-13111
- Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388
- Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258
- Elastomer toughened polyimide adhesives  
[NASA-CASE-LAR-12775-1] c 27 N83-28240
- Method of controlling a resin curing process --- for fiber reinforced composites  
[NASA-CASE-MSC-21169-1] c 27 N87-25473
- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894

## THERMOSTATS

- Thermal switch Patent  
[NASA-CASE-XNP-00463] c 33 N70-36847
- Thermostatic actuator  
[NASA-CASE-NPO-10637] c 15 N72-12409
- Thermostatically controlled non-tracking type solar energy concentrator  
[NASA-CASE-NPO-13497-1] c 44 N76-14602

## THICK FILMS

- Screened circuit capacitors  
[NASA-CASE-LAR-10294-1] c 26 N72-28762

## THICKNESS

- Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c 52 N76-29895
- Thickness measurement system  
[NASA-CASE-MFS-23721-1] c 31 N79-28370
- Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163
- Ice detector  
[NASA-CASE-LAR-13776-1] c 35 N88-29149
- Liquid thickness gauge  
[NASA-CASE-LAR-13826-1] c 35 N88-29150

## THIN FILMS

- Temperature sensitive capacitor device  
[NASA-CASE-XNP-09750] c 14 N69-39937
- Means and methods of depositing thin films on substrates Patent  
[NASA-CASE-XNP-00595] c 15 N70-34967
- Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560
- Vacuum deposition apparatus Patent  
[NASA-CASE-XMF-01667] c 15 N71-17647
- GaAs solar detector using manganese as a doping agent Patent  
[NASA-CASE-XNP-01328] c 26 N71-18064
- Stable amplifier having a stable quiescent point Patent  
[NASA-CASE-XGS-02812] c 09 N71-19466
- Evaporant source for vapor deposition Patent  
[NASA-CASE-XMF-06065] c 15 N71-20395
- Method of electrolytically binding a layer of semiconductors together Patent  
[NASA-CASE-XNP-01959] c 26 N71-23043
- Vacuum evaporator with electromagnetic ion steering Patent  
[NASA-CASE-NPO-10331] c 09 N71-26701
- Magnetic recording head and method of making same Patent  
[NASA-CASE-GSC-10097-1] c 08 N71-27210



- Thin film capacitive bolometer and temperature sensor Patent  
[NASA-CASE-NPO-10607] c 09 N71-27232
- Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783
- Fabrication of single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c 09 N72-22199
- Active microwave irises and windows  
[NASA-CASE-LAR-10513-1] c 07 N72-25170
- Light regulator  
[NASA-CASE-LAR-10836-1] c 26 N72-27784
- Thin film microwave iris  
[NASA-CASE-LAR-10511-1] c 09 N72-29172
- Method of forming transparent films of ZnO  
[NASA-CASE-FRC-10019] c 15 N73-12487
- Light intensity strain analysis  
[NASA-CASE-LAR-10765-1] c 32 N73-20740
- Monitoring deposition of films  
[NASA-CASE-MFS-20675] c 26 N73-26751
- Holographic thin film analyzer  
[NASA-CASE-MFS-20823-1] c 16 N73-30476
- Transparent switchboard  
[NASA-CASE-MSC-13746-1] c 10 N73-32143
- Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c 25 N74-18551
- Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge  
[NASA-CASE-ARC-10643-1] c 25 N75-12087
- System for depositing thin films  
[NASA-CASE-MFS-20775-1] c 31 N75-12161
- Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029
- Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c 31 N76-31365
- Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436
- Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163
- Partial interlaminar separation system for composites  
[NASA-CASE-LAR-12065-1] c 24 N81-14000
- Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015
- Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590
- Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589
- Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112
- Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153
- High intensity casting system  
[NASA-CASE-NPO-16901-1-CU] c 31 N87-15327
- Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416
- Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543
- Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120
- Liquid sheet radiator apparatus  
[NASA-CASE-LEW-14295-1] c 31 N89-14348
- THIN PLATES**
- Dichroic plate --- as bandpass filters  
[NASA-CASE-NPO-13506-1] c 35 N76-15435
- Adjustable securing base  
[NASA-CASE-MSC-19666-1] c 37 N78-17383
- THIN WALLED SHELLS**
- Thin-walled pressure vessel Patent  
[NASA-CASE-XLE-04677] c 15 N71-10577
- THIN WALLS**
- Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860
- Sealed separable connection Patent  
[NASA-CASE-NPO-10064] c 15 N71-17093
- Low mass truss structure  
[NASA-CASE-LAR-10546-1] c 11 N72-25287
- Differential pressure control  
[NASA-CASE-MFS-14216] c 14 N73-13418
- Method of fabricating an article with cavities --- with thin bottom walls  
[NASA-CASE-LAR-10318-1] c 31 N74-18089
- Method of fabricating an object with a thin wall having a precisely shaped slit  
[NASA-CASE-LAR-10409-1] c 31 N74-21059
- THORIUM FLUORIDES**
- Ultraviolet filter  
[NASA-CASE-XNP-02340] c 23 N69-24332
- THORIUM OXIDES**
- Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891
- THREADS**
- Inspection gage for boss Patent  
[NASA-CASE-XMF-04966] c 14 N71-17658
- Threadless fastener apparatus Patent  
[NASA-CASE-XFR-05302] c 15 N71-23254
- THREE AXIS STABILIZATION**
- Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808
- THREE DIMENSIONAL MOTION**
- Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c 08 N74-10942
- Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842
- THRESHOLD GATES**
- Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171
- Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c 76 N75-25730
- THRESHOLD LOGIC**
- SCR blocking pulse gate amplifier Patent  
[NASA-CASE-XLA-07497] c 09 N71-12514
- THROATS**
- Method of making a rocket nozzle  
[NASA-CASE-XMF-06884-1] c 20 N79-21123
- THRUST AUGMENTATION**
- Nozzle Patent  
[NASA-CASE-XLA-00154] c 28 N70-33374
- Construction and method of arranging a plurality of ion engines to form a cluster Patent  
[NASA-CASE-XNP-02923] c 28 N71-23081
- Reversed cowl flap inlet thrust augmentor --- with adjustable airfoil  
[NASA-CASE-ARC-10754-1] c 07 N75-24736
- Method and apparatus for rapid thrust increases in a turbofan engine  
[NASA-CASE-LEW-12971-1] c 07 N80-18039
- Thrust augmented spin recovery device  
[NASA-CASE-LAR-11970-2] c 08 N81-19130
- THRUST BEARINGS**
- Thrust bearing  
[NASA-CASE-LEW-11949-1] c 37 N76-29588
- THRUST CHAMBER PRESSURE**
- Pitch attitude stabilization system utilizing engine pressure ratio feedback signals  
[NASA-CASE-LAR-12562-1] c 08 N81-26152
- THRUST CHAMBERS**
- Rocket chamber leak test fixture  
[NASA-CASE-XFR-09479] c 14 N69-27503
- Supporting and protecting device Patent  
[NASA-CASE-XMF-00580] c 11 N70-35383
- Rocket thrust chamber Patent  
[NASA-CASE-XLE-00145] c 28 N70-36806
- Method of making a rocket motor casing Patent  
[NASA-CASE-XLE-00409] c 28 N71-15658
- Rocket motor casing Patent  
[NASA-CASE-XLE-05689] c 28 N71-15659
- Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736
- Injection head for delivering liquid fuel and oxidizers  
[NASA-CASE-NPO-10046] c 28 N72-17843
- Fluidic proportional thruster system  
[NASA-CASE-ARC-10106-1] c 28 N72-22769
- Ion thruster  
[NASA-CASE-LEW-10770-1] c 28 N72-22770
- Thermal flux transfer system  
[NASA-CASE-NPO-12070-1] c 28 N73-32606
- Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c 34 N79-13288
- Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289
- THRUST CONTROL**
- Electromechanical actuator  
[NASA-CASE-XNP-05975] c 15 N69-23185
- Apparatus and method for control of a solid fueled rocket vehicle Patent  
[NASA-CASE-XNP-00217] c 28 N70-38181
- Thrust and direction control apparatus Patent  
[NASA-CASE-XLE-03583] c 31 N71-17629
- Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c 28 N71-22983
- High efficiency ionizer assembly Patent  
[NASA-CASE-XNP-01954] c 28 N71-28850
- Heated porous plug microthruster  
[NASA-CASE-GSC-10640-1] c 28 N72-18766
- Multi-purpose wind tunnel reaction control model block  
[NASA-CASE-MSC-19706-1] c 09 N78-31129
- Fluid thrust control system --- for liquid propellant rocket engines  
[NASA-CASE-XMF-05964-1] c 20 N79-21124
- THRUST LOADS**
- Thrust measurement  
[NASA-CASE-XMS-05731] c 35 N75-29382
- THRUST MEASUREMENT**
- Thrust dynamometer Patent  
[NASA-CASE-XLE-00702] c 14 N70-40203
- Thrust dynamometer Patent  
[NASA-CASE-XLE-05260] c 14 N71-20429
- Precision thrust gage Patent  
[NASA-CASE-XGS-02319] c 14 N71-22965
- Micro-pound extended range thrust stand Patent  
[NASA-CASE-GSC-10710-1] c 28 N71-27094
- THRUST REVERSAL**
- Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293
- THRUST VECTOR CONTROL**
- Thrust vector control apparatus Patent  
[NASA-CASE-XLE-00208] c 28 N70-34294
- Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692
- Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173
- Tertiary flow injection thrust vectoring system Patent  
[NASA-CASE-MFS-20831] c 28 N71-29153
- Flight control system  
[NASA-CASE-MSC-13397-1] c 21 N72-25595
- Rocket thrust throttling system  
[NASA-CASE-LEW-10374-1] c 28 N73-13773
- System for imposing directional stability on a rocket-propelled vehicle  
[NASA-CASE-MFS-21311-1] c 20 N76-21275
- THRUST-WEIGHT RATIO**
- Missile launch release system Patent  
[NASA-CASE-XMF-03198] c 30 N70-40353
- THULIUM**
- Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856
- THYRISTORS**
- Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280
- Pulsed thyristor trigger control circuit  
[NASA-CASE-MFS-25616-1] c 33 N84-16455
- Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975
- Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661
- TILES**
- Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264
- Attachment system for silica tiles --- thermal protection for space shuttle orbiter  
[NASA-CASE-MSC-18741-1] c 27 N82-29456
- Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520
- Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18737-1] c 24 N83-13171
- Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18736-1] c 24 N83-13172
- Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482
- Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886
- Mechanical fastener  
[NASA-CASE-LAR-12738-2] c 37 N85-30335
- Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628
- TILT WING AIRCRAFT**
- Free wing assembly for an aircraft  
[NASA-CASE-FRC-10092-1] c 05 N79-12061
- TIME CONSTANT**
- Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964
- TIME DEPENDENCE**
- Instrument for determining coincidence and elapse time between independent sources of random sequential events  
[NASA-CASE-LAR-12531-1] c 35 N83-29651

## TIME DISCRIMINATION

## TIME DISCRIMINATION

Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34819

## TIME DIVISION MULTIPLEXING

Time division multiplex system  
[NASA-CASE-XGS-05918] c 07 N69-39974  
Time-division multiplexer Patent  
[NASA-CASE-XNP-00431] c 09 N70-38998  
Data processor having multiple sections activated at different times by selective power coupling to the sections Patent  
[NASA-CASE-XGS-04767] c 08 N71-12494  
Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506  
Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
[NASA-CASE-GSC-10373-1] c 07 N71-19773  
Signal processing apparatus for multiplex transmission Patent  
[NASA-CASE-NPO-10388] c 07 N71-24622  
Programmable telemetry system Patent  
[NASA-CASE-GSC-10131-1] c 07 N71-24624  
High dynamic global positioning system receiver  
[NASA-CASE-NPO-16171-1CU] c 04 N86-27270

## TIME FUNCTIONS

Single or joint amplitude distribution analyzer Patent  
[NASA-CASE-XNP-01383] c 09 N71-10659

## TIME LAG

Closed loop ranging system Patent  
[NASA-CASE-XNP-01501] c 21 N70-41930  
Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506  
Signal phase estimator  
[NASA-CASE-NPO-11203] c 10 N72-20224  
Automatic transponder --- measurement of the internal delay time of a transponder  
[NASA-CASE-GSC-12075-1] c 32 N77-31350  
Time delay and integration detectors using charge transfer devices  
[NASA-CASE-GSC-12324-1] c 33 N81-33403

## TIME MEASUREMENT

Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338  
Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207

## TIME MEASURING INSTRUMENTS

Measurement of time differences between luminous events Patent  
[NASA-CASE-XLA-01987] c 23 N71-23976  
Error correction method and apparatus for electronic timepieces  
[NASA-CASE-LAR-12654-1] c 33 N83-36357

## TIME OF FLIGHT SPECTROMETERS

Time of flight mass spectrometer with feedback means from the detector to the low source and a specific counter Patent  
[NASA-CASE-XNP-01056] c 14 N71-23041

## TIME SERIES ANALYSIS

Apparatus for statistical time-series analysis of electrical signals  
[NASA-CASE-MS-C-12428-1] c 10 N73-25240  
Solid sorbent air sampler  
[NASA-CASE-MS-C-20653-1] c 35 N86-26595

## TIME SHARING

Integrated time shared instrumentation display Patent  
[NASA-CASE-XLA-01952] c 08 N71-12507

## TIME SIGNALS

System for monitoring signal amplitude ranges  
[NASA-CASE-XMS-04061-1] c 09 N69-39885  
Method of resolving clock synchronization error and means therefor Patent  
[NASA-CASE-XNP-08875] c 10 N71-23099  
Time synchronization system utilizing moon reflected coded signals Patent  
[NASA-CASE-NPO-10143] c 10 N71-26326  
Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137  
System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519  
Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186

## TIMING DEVICES

Synchronous servo loop control system Patent  
[NASA-CASE-XNP-03744] c 10 N71-20448  
Method of resolving clock synchronization error and means therefor Patent  
[NASA-CASE-XNP-08875] c 10 N71-23099  
Resettable monostable pulse generator Patent  
[NASA-CASE-GSC-11139] c 09 N71-27016

Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255  
High speed photo-optical time recording  
[NASA-CASE-KSC-10294] c 14 N72-18411  
Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863

## TIPS

Thin wire pointing method  
[NASA-CASE-NPO-15789-1] c 31 N83-19947

## TIRES

Excessive temperature warning system Patent  
[NASA-CASE-XLA-01926] c 14 N71-15620  
Resilient wheel Patent  
[NASA-CASE-MFS-13929] c 15 N71-27091

## TISSUES (BIOLOGY)

Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123  
Method and system for in vivo measurement of bone tissue using a two level energy source  
[NASA-CASE-MS-C-14276-1] c 52 N77-14737  
System for and method of freezing biological tissue  
[NASA-CASE-GSC-12173-1] c 51 N79-10694  
Coupling apparatus for ultrasonic medical diagnostic system  
[NASA-CASE-NPO-13935-1] c 52 N79-14751  
Apparatus and method of inserting a microelectrode in body tissue or the like using vibration means  
[NASA-CASE-NPO-13910-1] c 52 N79-27836  
Multifunctional transducer  
[NASA-CASE-NPO-14329-1] c 52 N81-20703  
Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045  
Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618  
Horizontally rotated cell culture system  
[NASA-CASE-MS-C-21294-1] c 51 N89-13131

## TITANATES

Synthesis of zinc titanate pigment and coatings containing the same  
[NASA-CASE-MFS-13532] c 18 N72-17532

## TITANIUM

Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443  
Weld-bonded titanium structures  
[NASA-CASE-LAR-11549-1] c 37 N77-11397  
Method of mitigating titanium impurities effects in p-type silicon material for solar cells  
[NASA-CASE-NPO-14635-1] c 44 N80-24741  
Method and apparatus for coating substrates using a laser  
[NASA-CASE-LEW-13526-1] c 36 N84-22944  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

## TITANIUM ALLOYS

Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c 17 N71-16393  
Nondestructive spot test method for titanium and titanium alloys  
[NASA-CASE-LAR-10539-1] c 17 N73-12547  
Method and apparatus for coating substrates using a laser  
[NASA-CASE-LEW-13526-1] c 36 N84-22944

## TITANIUM NITRIDES

Improved refractory coatings --- sputtered coatings on substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209

## TITANIUM OXIDES

Method of preparing zinc orthotitanate pigment  
[NASA-CASE-MFS-23345-1] c 27 N77-30237

## TOLERANCES (MECHANICS)

Universal restrainer and joint Patent  
[NASA-CASE-XNP-02278] c 15 N71-28951

## TOLUENE

Supercritical multicomponent solvent coal extraction  
[NASA-CASE-NPO-15767-1] c 23 N84-16255

## TOMOGRAPHY

System for plotting subsoil structure and method therefor  
[NASA-CASE-NPO-14191-1] c 31 N80-32584  
Three-dimensional and tomographic imaging device for X-ray and gamma-ray emitting objects  
[NASA-CASE-GSC-12851-1] c 35 N85-30281

## TOOLS

Tool attachment for spreading loose elements away from work Patent  
[NASA-CASE-XMF-02107] c 15 N71-10809  
Adjustable attitude guide device Patent  
[NASA-CASE-XLA-07911] c 15 N71-15571  
Tube dimpling tool Patent  
[NASA-CASE-XMS-06876] c 15 N71-21536  
Stud-bonding gun  
[NASA-CASE-MFS-20299] c 15 N72-11392  
Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968

Stator rotor tools  
[NASA-CASE-MS-C-16000-1] c 37 N78-24544  
Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839  
Open ended tubing cutters  
[NASA-CASE-MS-C-18538-1] c 37 N82-26672  
Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MS-C-18791-1] c 37 N83-36482  
Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085  
Connection system --- insuring against loss of a tool component without using multiple tethers  
[NASA-CASE-MS-C-20319-1] c 37 N85-21649  
Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359

## TOOTH DISEASES

Process for the preparation of brushite crystals  
[NASA-CASE-ERC-10338] c 04 N72-33072

## TOPOGRAPHY

Method for observing the features characterizing the surface of a land mass  
[NASA-CASE-FRC-11013-1] c 43 N81-17499

## TORCHES

Apparatus for welding torch angle and seam tracking control Patent  
[NASA-CASE-XMF-03287] c 15 N71-15607  
Electric welding torch Patent  
[NASA-CASE-XMF-02330] c 15 N71-23798  
Computerized system for translating a torch head  
[NASA-CASE-MFS-23620-1] c 37 N79-10421  
Welding torch with arc light reflector  
[NASA-CASE-MFS-29134-1] c 74 N87-17493  
Welding torch gas cup extension  
[NASA-CASE-MFS-29252-1] c 37 N88-23980

## TOROIDAL SHELLS

Toroidal cell and battery --- storage battery for high amp-hour load applications  
[NASA-CASE-LEW-12918-1] c 44 N81-24521

## TOROIDS

Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon Patent  
[NASA-CASE-XGS-01881] c 09 N70-40123  
Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017

## TORQUE

Bidirectional step torque filter with zero backlash characteristic Patent  
[NASA-CASE-XGS-04227] c 15 N71-21744  
Isolation coupling arrangement for a torque measuring system  
[NASA-CASE-XLA-04897] c 15 N72-22482  
High-torque open-end wrench  
[NASA-CASE-NPO-13541-1] c 37 N79-14383  
Acoustic driving of rotor  
[NASA-CASE-NPO-14005-1] c 71 N79-20827  
Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569  
Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231  
Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084  
Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400  
Dual towline spin-recovery device  
[NASA-CASE-LAR-13076-1] c 08 N85-35200  
Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809

## TORQUE MOTORS

Low speed phaselock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c 09 N75-24758  
Magnetic bearing and motor  
[NASA-CASE-GSC-12726-1] c 37 N83-34323

## TORQUEMETERS

Optical torquemeter Patent  
[NASA-CASE-XLE-00503] c 14 N70-34818  
Balance torquemeter Patent  
[NASA-CASE-XGS-01013] c 14 N71-23725  
Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987

## TORSO

Restraint torso for a pressurized suit  
[NASA-CASE-MS-C-12397-1] c 05 N72-25119  
Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736  
Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618

## TOUCH

Mechanically actuated triggered hand  
[NASA-CASE-MFS-20413] c 15 N72-21463

- Method for measuring cutaneous sensory perception  
[NASA-CASE-MSC-13609-1] c 05 N72-25122
- Tactile sensing means for prosthetic limbs  
[NASA-CASE-MFS-16570-1] c 05 N73-32013
- TOUGHNESS**
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380
- High performance mixed bisimide resins and composites based thereon  
[NASA-CASE-ARC-11538-1SB] c 24 N86-21590
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451
- TOWERS**
- Aerial capsule emergency separation device Patent  
[NASA-CASE-XLA-00115] c 03 N70-33343
- TOXICITY**
- Glass compositions with a high modulus of elasticity --- nontoxic glass fibers  
[NASA-CASE-HQN-10274-1] c 27 N82-29451
- TOXICITY AND SAFETY HAZARD**
- Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
[NASA-CASE-LAR-10634-1] c 37 N74-18123
- TOXICOLOGY**
- Exposure system for animals Patent  
[NASA-CASE-XAC-05333] c 11 N71-22875
- TRACE CONTAMINANTS**
- Microbalance including crystal oscillators for measuring contaminants in a gas system Patent  
[NASA-CASE-NPO-10144] c 14 N71-17701
- Method for removing oxygen impurities from cesium Patent  
[NASA-CASE-XNP-04262-2] c 17 N71-26773
- Electric discharge for treatment of trace contaminants  
[NASA-CASE-ARC-10975-1] c 33 N79-15245
- Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1CU] c 35 N86-29174
- TRACE ELEMENTS**
- Ion microprobe mass spectrometer for analyzing fluid materials Patent  
[NASA-CASE-ERC-10014] c 14 N71-28863
- Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245
- Nulling device for detection of trace gases by NDIR absorption  
[NASA-CASE-ARC-10760-1] c 25 N76-22323
- Thermoluminescent aerosol analysis  
[NASA-CASE-LAR-12046-1] c 25 N78-15210
- TRACKED VEHICLES**
- Tank tread assemblies with track-linking mechanism  
[NASA-CASE-NPO-16321-1CU] c 37 N87-17034
- TRACKING (POSITION)**
- Plurality of photosensitive cells on a pyramidal base for planetary trackers  
[NASA-CASE-XNP-04180] c 07 N69-39736
- Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699
- Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125
- Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401
- System and method for tracking a signal source --- employing feedback control  
[NASA-CASE-HQN-10880-1] c 17 N78-17140
- Sun tracking solar energy collector  
[NASA-CASE-NPO-13921-1] c 44 N79-14526
- TRACKING FILTERS**
- Automatic acquisition system for phase-lock loop  
[NASA-CASE-XGS-04994] c 09 N69-21543
- Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313
- PN lock indicator for dithered PN code tracking loop  
[NASA-CASE-NPO-14435-1] c 33 N81-33405
- TRACKING RADAR**
- Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460
- Phase-locked loop with sideband rejecting properties Patent  
[NASA-CASE-XNP-02723] c 07 N70-41680
- Radar antenna system for acquisition and tracking Patent  
[NASA-CASE-XMS-09610] c 07 N71-24625
- Acquisition and tracking system for optical radar  
[NASA-CASE-MFS-20125] c 16 N72-13437
- Synthetic aperture radar target simulator  
[NASA-CASE-NPO-15024-1] c 32 N84-27951
- TRACKING STATIONS**
- Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175
- Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c 32 N75-15854
- TRAFFIC CONTROL**
- Traffic survey system --- using optical scanners  
[NASA-CASE-MFS-22631-1] c 66 N76-19888
- TRAILERS**
- Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288
- TRAILING-EDGE FLAPS**
- Double hinged flap Patent  
[NASA-CASE-XLA-01290] c 02 N70-42016
- Variable area exhaust nozzle  
[NASA-CASE-LEW-12378-1] c 07 N79-14097
- TRAINING DEVICES**
- Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-1] c 09 N84-12193
- TRAINING SIMULATORS**
- Mechanical simulator of low gravity conditions Patent  
[NASA-CASE-MFS-10555] c 11 N71-19494
- Subgravity simulator Patent  
[NASA-CASE-XMS-04798] c 11 N71-21474
- Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c 09 N75-15662
- TRAJECTORY ANALYSIS**
- Means for visually indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394
- Method of planetary atmospheric investigation using a split-trajectory dual flyby mode Patent  
[NASA-CASE-XAC-08494] c 30 N71-15990
- TRAJECTORY CONTROL**
- Trajectory-correction propulsion system Patent  
[NASA-CASE-XNP-01104] c 28 N70-39931
- Technique for control of free-flight rocket vehicles Patent  
[NASA-CASE-XLA-00937] c 31 N71-17691
- Apparatus for automatically stabilizing the attitude of a nonguided vehicle  
[NASA-CASE-ARC-10134] c 30 N72-17873
- TRANSDUCERS**
- Pressure variable capacitor  
[NASA-CASE-XNP-09752] c 14 N69-21541
- Bootstrap unloader Patent  
[NASA-CASE-XNP-09768] c 09 N71-12516
- Vibrating structure displacement measuring instrument Patent  
[NASA-CASE-XLA-03135] c 32 N71-16428
- Contour surveying system Patent  
[NASA-CASE-XLA-08646] c 14 N71-17586
- Rotary bead dropper and selector for testing micrometeorite detectors Patent  
[NASA-CASE-XGS-03304] c 09 N71-22988
- Self-calibrating displacement transducer Patent  
[NASA-CASE-XLA-00781] c 09 N71-22999
- Extensometer frame  
[NASA-CASE-XLA-10322] c 15 N72-17452
- Split range transducer  
[NASA-CASE-XLA-11189] c 10 N72-20222
- Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200
- Magnifying scratch gage force transducer  
[NASA-CASE-LAR-10496-1] c 14 N72-22437
- Intruder detection system  
[NASA-CASE-ARC-10097-2] c 07 N73-25160
- Acoustical transducer calibrating system and apparatus  
[NASA-CASE-FRC-10060-1] c 14 N73-27379
- Demodulator for carrier transducers  
[NASA-CASE-NUC-10107-1] c 33 N74-17930
- LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers  
[NASA-CASE-MFS-21698-1] c 33 N74-26732
- Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c 52 N74-27566
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c 33 N75-19520
- Subminiature insertable force transducer --- including a strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329
- Self-supporting strain transducer  
[NASA-CASE-LAR-11263-1] c 35 N75-33369
- Miniature muscle displacement transducer  
[NASA-CASE-NPO-13519-1] c 33 N76-19338
- Method and apparatus for nondestructive testing of pressure vessels  
[NASA-CASE-NPO-12142-1] c 38 N76-28563
- Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c 52 N76-29895
- Solar cell angular position transducer  
[NASA-CASE-LAR-11999-1] c 44 N80-18552
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- Multifunctional transducer  
[NASA-CASE-NPO-14329-1] c 52 N81-20703
- Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400
- Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470
- Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015
- Strain gage calibration  
[NASA-CASE-LAR-12743-1] c 35 N84-28019
- Thin film strain transducer --- suitable for in-flight measurement of scientific balloon strain  
[NASA-CASE-WLP-10055-2] c 35 N85-21598
- Gravity enhanced acoustic levitation method and apparatus  
[NASA-CASE-NPO-16147-1-CU] c 71 N85-29693
- Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982
- Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N88-23937
- Single mode levitation and translation  
[NASA-CASE-NPO-16675-1-CU] c 71 N88-24241
- Navigation system for land vehicles  
[NASA-CASE-LAR-13322-1] c 04 N88-24620
- TRANSFER FUNCTIONS**
- Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333
- TRANSFORMERS**
- Signal multiplexer  
[NASA-CASE-XGS-01110] c 07 N69-24334
- Insertion loss measuring apparatus having transformer means connected across a pair of bolometers Patent  
[NASA-CASE-XNP-01193] c 10 N71-16057
- Saturation current protection apparatus for saturable core transformers Patent  
[NASA-CASE-ERC-10075] c 09 N71-24800
- Unsaturating saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893
- Electronically resettable fuse Patent  
[NASA-CASE-XGS-11177] c 09 N71-27001
- Voltage regulator Patent  
[NASA-CASE-ERC-10113] c 09 N71-27053
- Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948
- Saturation current protection apparatus for saturable core transformers  
[NASA-CASE-ERC-10075-2] c 09 N72-22196
- Failsafe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c 09 N72-25262
- Banded transformer cores  
[NASA-CASE-NPO-11966-1] c 33 N74-17928
- Solid-state current transformer  
[NASA-CASE-MFS-22560-1] c 33 N77-14335
- Transformer regulated self-stabilizing chopper  
[NASA-CASE-XGS-09186] c 33 N78-17295
- Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193
- Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257
- System for automatically switching transformer coupled lines  
[NASA-CASE-MSC-16697-1] c 33 N79-28415
- Three phase power factor controller  
[NASA-CASE-MFS-25535-1] c 33 N81-12330
- Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220
- Low current linearization of magnetic amplifier for dc transducer  
[NASA-CASE-NPO-14617-1] c 33 N81-24338
- Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404
- Non-contacting power transfer device  
[NASA-CASE-GSC-12595-1] c 33 N82-24422
- High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146
- TRANSIENT HEATING**
- Thermocouple installation  
[NASA-CASE-NPO-13540-1] c 35 N77-14409
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373
- TRANSIENT LOADS**
- Deployable solar cell array  
[NASA-CASE-NPO-10883] c 31 N72-22874
- TRANSISTOR AMPLIFIERS**
- Apparatus for overcurrent protection of a push-pull amplifier Patent  
[NASA-CASE-MSC-12033-1] c 09 N71-13531

## TRANSISTOR CIRCUITS

- Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317
- Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463
- Pulse counting circuit which simultaneously indicates the occurrence of the nth pulse Patent  
[NASA-CASE-XMF-00906] c 09 N70-41655
- Linear sawtooth voltage-wave generator employing transistor timing circuit having capacitor-zener diode combination feedback Patent  
[NASA-CASE-XMS-01315] c 09 N70-41675
- Switching circuit employing regeneratively connected complementary transistors Patent  
[NASA-CASE-XNP-02654] c 10 N70-42032
- High voltage transistor circuit Patent  
[NASA-CASE-XNP-06937] c 09 N71-19516
- Complementary regenerative switch Patent  
[NASA-CASE-XGS-02751] c 09 N71-23015
- Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c 10 N71-27126
- Multiple slope sweep generator Patent  
[NASA-CASE-XMS-03542] c 09 N71-28926
- Broadband video process with very high input impedance  
[NASA-CASE-NPO-10199] c 09 N72-17156
- Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c 33 N74-20862
- Inrush current limiter  
[NASA-CASE-GSC-11789-1] c 33 N77-14333
- Temperature compensated current source  
[NASA-CASE-MSC-11235] c 33 N78-17294
- Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404
- Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494
- TRANSISTORS**
- Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543
- Switching circuit Patent  
[NASA-CASE-XNP-06505] c 10 N71-24799
- Cascaded complementary pair broadband transistor amplifiers Patent  
[NASA-CASE-NPO-10003] c 10 N71-26415
- Fast response low power drain logic circuits  
[NASA-CASE-GSC-10878-1] c 10 N72-22236
- Coaxial inverted geometry transistor having buried emitter  
[NASA-CASE-ARC-10330-1] c 09 N73-32112
- Four phase logic systems --- including integrated microcircuits  
[NASA-CASE-MSC-14240-1] c 33 N75-14957
- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321
- Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257
- Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220
- Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233
- TRANSITION FLOW**
- Ablation article and method  
[NASA-CASE-LAR-10439-1] c 33 N73-27796
- TRANSITION TEMPERATURE**
- Process for preparing thermoplastic aromatic polyimides  
[NASA-CASE-LAR-11828-1] c 27 N78-32261
- Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543
- TRANSLATIONAL MOTION**
- Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815
- Translating horizontal tail Patent  
[NASA-CASE-XLA-08801-1] c 02 N71-11043
- Semi-linear ball bearing Patent  
[NASA-CASE-XLA-02809] c 15 N71-22982
- Positioning mechanism  
[NASA-CASE-NPO-10679] c 15 N72-21462
- Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842
- TRANSLATORS**
- Serial data correlator/code translator  
[NASA-CASE-KSC-11025-1] c 32 N83-13323
- TRANSLUCENCE**
- Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750
- TRANSMISSION CIRCUITS**
- Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118

## TRANSMISSION EFFICIENCY

- Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-MFS-21470-1] c 44 N74-19870
- Linear phase demodulator including a phase locked loop with auxiliary feedback loop  
[NASA-CASE-GSC-12018-1] c 33 N77-14334
- TRANSMISSION LINES**
- Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292
- Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191
- Phase modulator Patent  
[NASA-CASE-MSC-13201-1] c 07 N71-28429
- Shielded flat cable  
[NASA-CASE-MFS-13687-2] c 09 N72-22198
- Phase control circuits using frequency multiplications for phased array antennas  
[NASA-CASE-ERC-10285] c 10 N73-16206
- Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c 33 N74-14956
- System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c 33 N74-17927
- Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310
- System for automatically switching transformer coupled lines  
[NASA-CASE-MSC-16697-1] c 33 N79-28415
- TRANSMISSION LOSS**
- Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1-CU] c 74 N88-25304
- TRANSMISSIONS (MACHINE ELEMENTS)**
- Compensating linkage for main rotor control  
[NASA-CASE-LAR-11797-1] c 05 N81-19087
- Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084
- Magnetic drive coupling  
[NASA-CASE-MSC-21171-1] c 37 N88-23973
- TRANSMISSIVITY**
- Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389
- TRANSMITTANCE**
- Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750
- TRANSMITTER RECEIVERS**
- Integrated thermoelectric generator/space antenna combination  
[NASA-CASE-XER-09521] c 09 N72-12136
- Location identification system  
[NASA-CASE-ERC-10324] c 07 N72-25173
- Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c 32 N74-12912
- Digital communication system  
[NASA-CASE-MSC-13912-1] c 32 N74-30524
- TRANSMITTERS**
- Temperature telemetric transmitter Patent  
[NASA-CASE-NPO-10649] c 07 N71-24840
- Two carrier communication system with single transmitter  
[NASA-CASE-NPO-11548] c 07 N73-26118
- Miniature multichannel biotelemetry system  
[NASA-CASE-NPO-13065-1] c 52 N74-26625
- Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c 32 N75-21486
- Apparatus for endoscopic examination --- analysis of the propulsion system configuration and transmitter  
[NASA-CASE-NPO-14092-1] c 52 N80-16725
- Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863
- TRANSONIC SPEED**
- Leading edge curvature based on convective heating Patent  
[NASA-CASE-XLA-01486] c 01 N71-23497
- TRANSONIC WIND TUNNELS**
- Wind tunnel test section  
[NASA-CASE-MFS-20509] c 11 N72-17183
- Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558
- TRANSPARENCE**
- Helmet assembly and latch means therefor Patent  
[NASA-CASE-XMS-04935] c 05 N71-11190
- Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932
- Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550
- Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750

- Process for preparing essentially colorless polyimide film containing phenoxy-linked diamines  
[NASA-CASE-LAR-13353-1] c 27 N86-29039
- Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727
- Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360
- Method for investigating the formation of crystals in a transparent material  
[NASA-CASE-MFS-26008-1-CU] c 76 N88-14835
- TRANSPIRATION**
- Rocket chamber and method of making  
[NASA-CASE-LEW-11118-2] c 20 N76-14191
- TRANSPONDERS**
- Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391
- Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118
- Code regenerative clean-up loop transponder for a mu-type ranging system  
[NASA-CASE-NPO-11707] c 07 N73-25161
- Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c 32 N74-12912
- Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c 32 N75-15854
- Automatic transponder --- measurement of the internal delay time of a transponder  
[NASA-CASE-GSC-12075-1] c 32 N77-31350
- Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304
- TRANSPORTATION**
- Supporting and protecting device Patent  
[NASA-CASE-XMF-00580] c 11 N70-35383
- Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722
- TRANSVERSE ACCELERATION**
- Rim inertial measuring system  
[NASA-CASE-LAR-12052-1] c 18 N81-29152
- TRAPS**
- Deep trap, laser activated image converting system  
[NASA-CASE-NPO-13131-1] c 36 N75-19652
- TRAVELING WAVE AMPLIFIERS**
- Serrodyne frequency converter re-entrant amplifier system Patent  
[NASA-CASE-XGS-01022] c 07 N71-16088
- Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251
- Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350
- Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452
- TRAVELING WAVE MASERS**
- Folded traveling wave maser structure Patent  
[NASA-CASE-XNP-05219] c 16 N71-15550
- High-gain, broadband traveling wave maser Patent  
[NASA-CASE-NPO-10548] c 16 N71-24831
- Independent gain and bandwidth control of a traveling wave maser  
[NASA-CASE-NPO-13801-1] c 36 N78-18410
- TRAVELING WAVE TUBES**
- Segmented superconducting magnet for a broadband traveling wave maser Patent  
[NASA-CASE-XGS-10518] c 16 N71-28554
- Traveling wave tube circuit  
[NASA-CASE-LEW-12013-1] c 33 N79-10339
- Multistage depressed collector for dual mode operation --- for microwave transmitting tubes  
[NASA-CASE-LEW-13282-1] c 33 N82-24415
- Linearized traveling wave amplifier with hard limiter characteristics  
[NASA-CASE-LEW-13981-2] c 33 N86-21742
- Miniature traveling wave tube and method of making  
[NASA-CASE-LEW-14520-1] c 33 N88-23936
- TRAVELING WAVES**
- Maser for frequencies in the 7-20 GHz range  
[NASA-CASE-NPO-11437] c 16 N72-28521
- TREADMILLS**
- Tread drum for animals --- having an electrical shock station  
[NASA-CASE-ARC-10917-1] c 51 N78-27733
- TREADS**
- Tank tread assemblies with track-linking mechanism  
[NASA-CASE-NPO-16321-1-CU] c 37 N87-17034
- TRIGGER CIRCUITS**
- Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463
- Electric arc driven wind tunnel Patent  
[NASA-CASE-XMF-00411] c 11 N70-36913
- Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244

- Multivibrator circuit with means to prevent false triggering from supply voltage fluctuations Patent  
[NASA-CASE-ARC-10137-1] c 09 N71-28468
- SCR lamp driver  
[NASA-CASE-GSC-10221-1] c 09 N72-23171
- Rapidly pulsed, high intensity, incoherent light source  
[NASA-CASE-XLE-2529-3] c 33 N74-20859
- Pulsed thyristor trigger control circuit  
[NASA-CASE-MFS-25616-1] c 33 N84-16455
- TRIGONOMETRY**  
Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent  
[NASA-CASE-XMF-00684] c 21 N71-21688
- TRIMERS**  
Trifunctional alcohol  
[NASA-CASE-NPO-10714] c 06 N69-31244
- Trimerization of aromatic nitriles  
[NASA-CASE-LEW-12053-1] c 27 N78-15276
- Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307
- TRIODES**  
Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898
- Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587
- TRITIUM**  
Method for determining the state of charge of batteries by the use of tracers Patent  
[NASA-CASE-XNP-01464] c 03 N71-10728
- TROPOPAUSE**  
CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040
- TRUCKS**  
Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477
- Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288
- TRUSSES**  
Low mass truss structure  
[NASA-CASE-LAR-10546-1] c 11 N72-25287
- Lightweight structural columns --- space erectable trusses  
[NASA-CASE-LAR-12095-1] c 31 N81-25258
- Structural members, method and apparatus  
[NASA-CASE-MS-C-16217-1] c 31 N81-27323
- Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479
- Shuttle-launch triangular space station  
[NASA-CASE-MS-C-20676-1] c 18 N86-24729
- Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1] c 37 N86-25789
- Deployable M-braced truss structure  
[NASA-CASE-LAR-13081-1] c 37 N86-32737
- Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413
- Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492
- Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713
- Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MS-C-20985-1] c 18 N88-26398
- Collet lock joint for space station truss  
[NASA-CASE-MS-C-21207-1] c 37 N88-29180
- Clevis joint for deployable space structures  
[NASA-CASE-LAR-13898-1] c 37 N88-30130
- TUBE GRIDS**  
Method for fabricating solar cells having integrated collector grits  
[NASA-CASE-LEW-12819-2] c 44 N79-18444
- TUBE HEAT EXCHANGERS**  
Electrothermal rockets having improved heat exchangers Patent  
[NASA-CASE-XLE-01783] c 28 N70-34175
- Procedure and apparatus for determination of water in nitrogen tetroxide  
[NASA-CASE-NPO-10234] c 06 N72-17094
- Liquid cooled brassiere and method of diagnosing malignant tumors therewith  
[NASA-CASE-ARC-11007-1] c 52 N77-14736
- Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518
- TUBES**  
Method of making tubes Patent  
[NASA-CASE-XGS-04175] c 15 N71-18579
- Tube sealing device Patent  
[NASA-CASE-NPO-10431] c 15 N71-29132
- TUMBLING MOTION**  
Tumbler system to provide random motion  
[NASA-CASE-XGS-02437] c 15 N69-21472
- TUMORS**  
Liquid cooled brassiere and method of diagnosing malignant tumors therewith  
[NASA-CASE-ARC-11007-1] c 52 N77-14736
- TUNABLE LASERS**  
Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943
- Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631
- Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264
- Method and means for generation of tunable laser sidebands in the far-infrared region  
[NASA-CASE-NPO-16497-1-CU] c 36 N87-25567
- Isotope separation using tuned laser and electron beam  
[NASA-CASE-NPO-16907-1-CU] c 25 N88-24732
- TUNGSTEN**  
Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786
- Method of producing porous tungsten ionizers for ion rocket engines Patent  
[NASA-CASE-XLE-00455] c 28 N70-38197
- Small plasma probe Patent  
[NASA-CASE-XLE-02578] c 25 N71-20747
- Fabrication of controlled-porosity metals Patent  
[NASA-CASE-XNP-04339] c 17 N71-29137
- Tungsten contacts on silicon substrates  
[NASA-CASE-GSC-10695-1] c 09 N72-25259
- Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891
- TUNGSTEN ALLOYS**  
Evaporant holder  
[NASA-CASE-XLA-03105] c 15 N69-27483
- Cobalt-base alloy  
[NASA-CASE-LEW-10436-1] c 17 N73-32415
- Directionally solidified eutectic gamma plus beta nickel-base superalloys  
[NASA-CASE-LEW-12906-1] c 26 N77-32279
- TUNING**  
Active tuned circuit  
[NASA-CASE-GSC-11340-1] c 10 N72-33230
- Magnetically actuated tuning method for Gunn oscillators  
[NASA-CASE-NPO-12106] c 09 N73-15235
- Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421
- Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943
- Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947
- Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234
- Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895
- Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836
- TUNNEL DIODES**  
Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317
- High band gap 2-6 and 3-5 tunneling junctions for silicon multijunction solar cells  
[NASA-CASE-NPO-16526-1CU] c 44 N87-17399
- TUNNELING (EXCAVATION)**  
Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272
- TUNNELS**  
Deployable flexible tunnel  
[NASA-CASE-MFS-22636-1] c 37 N76-22540
- TURBINE BLADES**  
Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226
- Modification and improvements to cooled blades Patent  
[NASA-CASE-XLE-00092] c 15 N70-33264
- High temperature nickel-base alloy Patent  
[NASA-CASE-XLE-00151] c 17 N70-33283
- External liquid-spray cooling of turbine blades Patent  
[NASA-CASE-XLE-00037] c 28 N70-33372
- Liquid spray cooling method Patent  
[NASA-CASE-XLE-00027] c 33 N71-29152
- Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515
- Leading edge protection for composite blades  
[NASA-CASE-LEW-12550-1] c 24 N77-19170
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674
- Method of protecting a surface with a silicon-slurry/aluminide coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Vertical shaft windmill  
[NASA-CASE-LAR-12923-1] c 37 N84-12493
- TURBINE ENGINES**  
High speed, self-acting shaft seal --- for use in turbine engines  
[NASA-CASE-LEW-11274-1] c 37 N75-21631
- Dual cycle aircraft turbine engine  
[NASA-CASE-LAR-11310-1] c 07 N77-28118
- Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318
- Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658
- TURBINE PUMPS**  
Pulsed energy power system Patent  
[NASA-CASE-MS-C-13112] c 03 N71-11057
- Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654
- Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502
- Supercharged topping rocket propellant feed system  
[NASA-CASE-XLE-02062-1] c 20 N80-14188
- Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974
- TURBINE WHEELS**  
Locking device for turbine rotor blades Patent  
[NASA-CASE-XNP-00816] c 28 N71-28928
- Apparatus for welding blades to rotors  
[NASA-CASE-LEW-10533-2] c 37 N74-11300
- Blade retainer assembly  
[NASA-CASE-LEW-12608-1] c 07 N77-27116
- TURBINES**  
Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294
- Method for driving two-phase turbines with enhanced efficiency  
[NASA-CASE-NPO-15037-2] c 37 N85-29282
- TURBOCOMPRESSORS**  
Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00170] c 15 N70-36412
- Apparatus and method for reducing thermal stress in a turbine rotor  
[NASA-CASE-LEW-12232-1] c 07 N79-10057
- Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577
- Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808
- TURBOFAN ENGINES**  
Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c 07 N74-28226
- Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418
- Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055
- Method and apparatus for rapid thrust increases in a turbofan engine  
[NASA-CASE-LEW-12971-1] c 07 N80-18039
- Integrated control system for a gas turbine engine  
[NASA-CASE-LEW-12594-2] c 07 N81-19116
- Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293
- Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884
- TURBOFANS**  
Dual output variable pitch turbofan actuation system  
[NASA-CASE-LEW-12419-1] c 07 N77-14025
- Reverse pitch fan with divided splitter  
[NASA-CASE-LEW-12760-1] c 07 N77-17059
- TURBOGENERATORS**  
Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018
- TURBOJET ENGINE CONTROL**  
Integrated control system for a gas turbine engine  
[NASA-CASE-LEW-12594-2] c 07 N81-19116
- TURBOJET ENGINES**  
Telescoping-spike supersonic inlet for aircraft engines Patent  
[NASA-CASE-XLE-00005] c 28 N70-39899

- Gas turbine combustion apparatus Patent  
[NASA-CASE-XLE-103477-1] c 28 N71-20330
- Reduction of nitric oxide emissions from a combustor  
[NASA-CASE-ARC-10814-2] c 07 N80-26298
- TURBOMACHINE BLADES**
- Platform for a swing root turbomachinery blade  
[NASA-CASE-LEW-12312-1] c 07 N77-32148
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658
- TURBOMACHINERY**
- Turbo-machine blade vibration damper Patent  
[NASA-CASE-XLE-00155] c 28 N71-29154
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Method of fabricating an abrasible gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957
- Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018
- Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606
- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788
- TURBOSHAPTS**
- Optical torque meter Patent  
[NASA-CASE-XLE-00503] c 14 N70-34818
- High speed, self-acting shaft seal --- for use in turbine engines  
[NASA-CASE-LEW-11274-1] c 37 N75-21631
- TURBULENCE METERS**
- Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470
- TURBULENCE BOUNDARY LAYER**
- Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235
- Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551
- TURBULENCE FLOW**
- Exhaust flow deflector --- for ducted gas flow  
[NASA-CASE-LAR-11570-1] c 34 N76-18364
- System for measuring Reynolds in a turbulently flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c 34 N76-27517
- System for measuring three fluctuating velocity components in a turbulently flowing fluid  
[NASA-CASE-ARC-10974-1] c 34 N77-27345
- Detection of the transitional layer between laminar and turbulent flow areas on a wing surface --- using an accelerometer to measure pressure levels during wind tunnel tests  
[NASA-CASE-LAR-12261-1] c 02 N80-20224
- Amplified wind turbine apparatus  
[NASA-CASE-MFS-23830-1] c 44 N82-24639
- Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575
- TURNSTILE ANTENNAS**
- Method and means for damping nutation in a satellite Patent  
[NASA-CASE-XMF-00442] c 31 N71-10747
- Broadband modified turnstile antenna Patent  
[NASA-CASE-MSC-12209] c 09 N71-24842
- Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c 32 N74-20864
- Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c 33 N76-14372
- TURRET**
- Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent  
[NASA-CASE-NPO-10625] c 09 N71-26182
- TWISTING**
- Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279
- TWO BODY PROBLEM**
- Instrument for measuring potentials on two dimensional electric field plots Patent  
[NASA-CASE-XLA-08493] c 10 N71-19421
- TWO DIMENSIONAL BODIES**
- Two-dimensional radiant energy array computers and computing devices  
[NASA-CASE-GSC-11839-1] c 60 N77-14751
- TWO PHASE FLOW**
- Two-step rocket engine bipropellant valve Patent  
[NASA-CASE-XMS-04890-1] c 15 N70-22192
- Booster tank system Patent  
[NASA-CASE-MSC-12390] c 27 N71-29155
- Two phase flow system with discrete impinging two-phase jets  
[NASA-CASE-NPO-11556] c 12 N72-25292
- Method and turbine for extracting kinetic energy from a stream of two-phase fluid  
[NASA-CASE-NPO-14130-1] c 34 N79-20335

- Method for driving two-phase turbines with enhanced efficiency  
[NASA-CASE-NPO-15037-2] c 37 N85-29282
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-2] c 34 N88-23958
- TYPEWRITERS**
- Guide for a typewriter  
[NASA-CASE-MFS-15218-1] c 37 N77-19457

## U

## U BENDS

- Technique of elbow bending small jacketed transfer lines Patent  
[NASA-CASE-XNP-10475] c 15 N71-24679
- Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c 06 N73-13129

## ULCERS

- Indomethacin-antihistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-2] c 52 N81-14613
- Indomethacin-antihistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-1] c 52 N81-29764

## ULLAGE

- Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MSC-12280] c 27 N71-16348

## ULTRAHIGH FREQUENCIES

- Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c 33 N76-14372
- Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524

## ULTRAHIGH VACUUM

- Method of lubricating rolling element bearings Patent  
[NASA-CASE-XLE-09527] c 15 N71-17688
- Gauge calibration by diffusion  
[NASA-CASE-XGS-07752] c 14 N73-30390
- Ultrahigh vacuum gauge having two collector electrodes  
[NASA-CASE-LAR-02743] c 14 N73-32324
- In situ transfer standard for ultrahigh vacuum gage calibration  
[NASA-CASE-LAR-10862-1] c 35 N74-15092
- Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286

## ULTRAPURE METALS

- Apparatus for production of ultrapure amorphous metals utilizing acoustic cooling  
[NASA-CASE-NPO-15658-1] c 26 N86-32551

## ULTRASONIC AGITATION

- Apparatus for recovering matter adhered to a host surface  
[NASA-CASE-NPO-11213] c 15 N73-20514

## ULTRASONIC CLEANING

- Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862

## ULTRASONIC FLAW DETECTION

- Length mode piezoelectric ultrasonic transducer for inspection of solid objects  
[NASA-CASE-MSC-19672-1] c 38 N79-14398
- Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928
- Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276
- Ultrasonic method and apparatus for determining crack opening load  
[NASA-CASE-LAR-13889-1] c 39 N88-30160

## ULTRASONIC RADIATION

- Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c 52 N74-20726
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-1] c 52 N76-33835
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-2] c 52 N79-26771
- Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282
- Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618
- Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653

## ULTRASONIC SCANNERS

- Cutting head for ultrasonic lithotripsy  
[NASA-CASE-GSC-12944-1] c 52 N86-19885

## ULTRASONIC TESTS

- Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MFS-20335-1] c 35 N74-10415

- Ultrasonic scanning system for in-place inspection of brazed tube joints  
[NASA-CASE-MFS-20767-1] c 38 N74-15130
- Method and apparatus for nondestructive testing --- using high frequency arc discharges  
[NASA-CASE-MFS-21233-1] c 38 N74-15395
- CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512
- Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941
- Ultrasonic method and apparatus for determining crack opening load  
[NASA-CASE-LAR-13889-1] c 39 N88-30160

## ULTRASONIC WAVE TRANSDUCERS

- Apparatus for recovering matter adhered to a host surface  
[NASA-CASE-NPO-11213] c 15 N73-20514
- Ultrasonic bone densitometer  
[NASA-CASE-MFS-20994-1] c 35 N75-12271
- Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c 54 N75-27760
- Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity  
[NASA-CASE-LAR-11435-1] c 35 N76-15432
- Coupling apparatus for ultrasonic medical diagnostic system  
[NASA-CASE-NPO-13935-1] c 52 N79-14751
- CDS solid state phase insensitive ultrasonic transducer --- annealing dadmium sulfide crystals  
[NASA-CASE-LAR-12304-1] c 35 N80-20559
- Liquid-immersible electrostatic ultrasonic transducer  
[NASA-CASE-LAR-12465-1] c 33 N82-26572
- Ultrasonic transducer with Gaussian radial pressure distribution  
[NASA-CASE-LAR-12967-1] c 35 N84-22932
- Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913
- Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

## ULTRASONIC WELDING

- Ultrasonically bonded value assembly  
[NASA-CASE-NPO-13360-1] c 37 N75-25185

## ULTRASONICS

- Methods and apparatus employing vibratory energy for wrenching Patent  
[NASA-CASE-MFS-20586] c 15 N71-17686
- Pseudo continuous wave instrument --- ultrasonics  
[NASA-CASE-LAR-12260-1] c 35 N79-10390
- Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282
- Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618
- Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

## ULTRAVIOLET FILTERS

- Ultraviolet filter  
[NASA-CASE-XNP-02340] c 23 N69-24332
- Ultraviolet resonance lamp Patent  
[NASA-CASE-ARC-10030] c 09 N71-12521

## ULTRAVIOLET LASERS

- Stabilization of He2(a 3 Sigma u+) molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826

## ULTRAVIOLET RADIATION

- Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979
- Ultraviolet resonance lamp Patent  
[NASA-CASE-ARC-10030] c 09 N71-12521
- Leak detector wherein a probe is monitored with ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c 15 N71-24896
- Phototropic composition of matter  
[NASA-CASE-XGS-03736] c 14 N72-22443
- Transmitting and reflecting diffuser --- for ultraviolet light  
[NASA-CASE-LAR-10385-2] c 70 N74-13436
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c 27 N74-21156
- Light shield and cooling apparatus --- high intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c 34 N74-23066
- Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410
- Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c 36 N76-29575
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315
- Vitro-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MSC-16074-1] c 27 N80-26446



**ULTRAVIOLET REFLECTION**

- Alkali metal silicate protective coating Patent  
[NASA-CASE-XGS-04799] c 18 N71-24183
- Ultraviolet light reflective coating  
[NASA-CASE-GSC-11786-1] c 24 N76-24363
- Transmitting and reflecting diffuser --- using ultraviolet grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879

**ULTRAVIOLET SPECTRA**

- Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428

**ULTRAVIOLET SPECTROMETERS**

- Concave grating spectrometer Patent  
[NASA-CASE-XGS-01036] c 14 N70-40003
- Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699

**UMBILICAL CONNECTORS**

- Umbilical separator for rockets Patent  
[NASA-CASE-XNP-00425] c 11 N70-38202
- Umbilical disconnect Patent  
[NASA-CASE-XLA-00711] c 03 N71-12258
- Remote controlled tubular disconnect Patent  
[NASA-CASE-XLA-01396] c 03 N71-12259
- Serpentuator Patent  
[NASA-CASE-XMF-05344] c 31 N71-16345
- Breakaway connector  
[NASA-CASE-NPO-11140] c 15 N72-17455
- Quick disconnect coupling  
[NASA-CASE-NPO-11202] c 15 N72-25450
- Deployable flexible tunnel  
[NASA-CASE-MFS-22636-1] c 37 N76-22540
- High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272

**UMBILICAL TOWERS**

- Emergency escape system Patent  
[NASA-CASE-XKS-02342] c 05 N71-11199

**UNDERWATER ENGINEERING**

- Ejectable underwater sound source recovery assembly  
[NASA-CASE-LAR-10595-1] c 35 N74-16135
- Underwater seismic source --- for petroleum exploration  
[NASA-CASE-NPO-14255-1] c 46 N79-23555

**UNDERWATER TESTS**

- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332] c 05 N72-20097
- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c 05 N73-25125

**UNIFORM FLOW**

- Wind tunnel flow generation section  
[NASA-CASE-ARC-10710-1] c 09 N75-12969

**UNIONS (CONNECTORS)**

- Beam connector apparatus and assembly  
[NASA-CASE-MFS-25134-1] c 31 N83-31895
- Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713

**UNLOADING**

- Bootstrap unloader Patent  
[NASA-CASE-XNP-09768] c 09 N71-12516

**UNMANNED SPACECRAFT**

- Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036

**UNSATURATION (CHEMISTRY)**

- Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043

**UP-CONVERTERS**

- Method and apparatus for quadriphase-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192

**UPPER ATMOSPHERE**

- Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699
- Apparatus for sampling particulates in gases  
[NASA-CASE-HQN-10037-1] c 14 N73-27376
- Rocket having barium release system to create ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c 15 N74-27360
- Microwave limb sounder --- measuring trace gases in the upper atmosphere  
[NASA-CASE-NPO-14544-1] c 46 N82-12685

**URANIUM 235**

- Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477

**UREAS**

- Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c 27 N77-30236
- Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687
- Reverse osmosis membrane of high urea rejection properties --- water purification  
[NASA-CASE-ARC-10980-1] c 27 N80-23452

**URETHANES**

- Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104

**URINALYSIS**

- Automated fluid chemical analyzer Patent  
[NASA-CASE-XNP-09451] c 06 N71-26754
- Method of detecting and counting bacteria in body fluids  
[NASA-CASE-GSC-11092-2] c 04 N73-27052
- Automatic instrument for chemical processing to detect microorganism in biological samples by measuring light reactions  
[NASA-CASE-GSC-11169-2] c 05 N73-32011
- Determination of antimicrobial susceptibilities on infected urines without isolation  
[NASA-CASE-GSC-12046-1] c 52 N79-14750

**URINATION**

- Open type urine receptacle  
[NASA-CASE-MSC-12324-1] c 05 N72-22093
- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711
- Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740

**URINE**

- Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941

**UROLOGY**

- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711

**UTERUS**

- Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875

**V****V GROOVES**

- Vee-notching device --- with adjustable carriage  
[NASA-CASE-MFS-20730-1] c 39 N74-13131
- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321
- High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177

**VACANCIES (CRYSTAL DEFECTS)**

- Bimetallic junctions  
[NASA-CASE-LEW-11573-1] c 26 N77-28265

**VACUUM**

- Depositing semiconductor films utilizing a thermal gradient  
[NASA-CASE-XKS-04614] c 15 N69-21460
- Superconducting magnet Patent  
[NASA-CASE-XNP-06503] c 23 N71-29049
- Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346
- Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450
- Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283

**VACUUM APPARATUS**

- Null-type vacuum microbalance Patent  
[NASA-CASE-XAC-00472] c 15 N70-40180
- Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23256
- Apparatus for testing polymeric materials Patent  
[NASA-CASE-XNP-09699] c 06 N71-24607
- Trap for preventing diffusion pump backstreaming  
[NASA-CASE-GSC-10518-1] c 15 N72-22489
- Inductance device with vacuum insulation  
[NASA-CASE-LEW-10330-1] c 09 N72-27226
- Apparatus for producing metal powders  
[NASA-CASE-XLE-06461-2] c 17 N72-28535
- Vacuum probe surface sampler  
[NASA-CASE-LAR-10623-1] c 14 N73-30395
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612
- Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c 37 N76-21554
- Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343
- Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
[NASA-CASE-NPO-15227-1] c 37 N81-33482
- Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187
- Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650
- Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679
- Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817

**VACUUM CHAMBERS**

- High-vacuum condenser tank for ion rocket tests Patent  
[NASA-CASE-XLE-00168] c 11 N70-33278
- Split welding chamber Patent  
[NASA-CASE-LEW-11531] c 15 N71-14932
- Space environmental work simulator Patent  
[NASA-CASE-XMF-07488] c 11 N71-18773
- Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent  
[NASA-CASE-XLE-00787] c 14 N71-21090
- Device for measuring light scattering wherein the measuring beam is successively reflected between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c 14 N71-28994
- Cryogenic feedthrough  
[NASA-CASE-LAR-10031] c 15 N72-22484
- Altitude simulation chamber for rocket engine testing  
[NASA-CASE-MFS-20620] c 11 N72-27262
- Evacuation valve  
[NASA-CASE-LAR-10061-1] c 15 N72-31483
- Method and apparatus for determining the contents of contained gas samples  
[NASA-CASE-GSC-10903-1] c 14 N73-12444
- Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267
- Atomic hydrogen storage --- cryotrapping and magnetic field strength  
[NASA-CASE-LEW-12081-2] c 28 N80-20402
- Containerless high temperature calorimeter apparatus  
[NASA-CASE-MFS-23923-1] c 35 N81-19426
- Hermetic seal for a shaft  
[NASA-CASE-NPO-15115-1] c 37 N82-24493
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-15670-1] c 33 N82-33634
- Sphere forming method and apparatus  
[NASA-CASE-NPO-15070-1] c 31 N83-35176
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884
- Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253

**VACUUM DEPOSITION**

- A method for the deposition of beta-silicon carbide by isoeptitaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482
- Vacuum deposition apparatus Patent  
[NASA-CASE-XMF-01667] c 15 N71-17647
- Evaporant source for vapor deposition Patent  
[NASA-CASE-XMF-06065] c 15 N71-20395
- Vacuum evaporator with electromagnetic ion steering Patent  
[NASA-CASE-NPO-10331] c 09 N71-26701
- Preparation of dielectric coating of variable dielectric constant by plasma polymerization  
[NASA-CASE-ARC-10892-2] c 27 N79-14214
- Refractory coatings and method of producing the same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415
- Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267

**VACUUM EFFECTS**

- High power RF coaxial switch  
[NASA-CASE-NPO-14229-1] c 33 N80-18285

**VACUUM FURNACES**

- Apparatus for inserting and removing specimens from high temperature vacuum furnaces  
[NASA-CASE-LAR-10841-1] c 31 N74-27900

**VACUUM GAGES**

- Thermopile vacuum gage tube simulator Patent  
[NASA-CASE-XLA-02758] c 14 N71-18481
- Gauge calibration by diffusion  
[NASA-CASE-XGS-07752] c 14 N73-30390
- Ultrahigh vacuum measuring ionization gauge  
[NASA-CASE-XLA-05087] c 14 N73-30391
- In situ transfer standard for ultrahigh vacuum gage calibration  
[NASA-CASE-LAR-10862-1] c 35 N74-15092

**VACUUM MELTING**

- High temperature furnace for melting materials in space  
[NASA-CASE-MFS-20710] c 11 N72-23215

**VACUUM PUMPS**

- Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433

**VACUUM SPECTROSCOPY**

- Optical multiple sample vacuum integrating sphere  
[NASA-CASE-GSC-12849-1] c 74 N86-26190

**VACUUM SYSTEMS**

- Shrink-fit gas valve Patent  
[NASA-CASE-XGS-00587] c 15 N70-35087
- Cryogenic connector for vacuum use Patent  
[NASA-CASE-XGS-02441] c 15 N70-41629

Ionization vacuum gauge with all but the end of the ion collector shielded Patent  
[NASA-CASE-XLA-07424] c 14 N71-18482  
Sorption vacuum trap Patent  
[NASA-CASE-XER-09519] c 14 N71-18483  
Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612  
Ampoule sealing apparatus and process --- for housing a semiconductor growth charge under vacuum  
[NASA-CASE-LAR-12847-1] c 33 N83-16633

**VACUUM TUBES**

Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c 31 N76-31365  
Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229

**VALUE**

High impact pressure regulator Patent  
[NASA-CASE-NPO-10175] c 14 N71-18625

**VALVES**

Valve actuator Patent  
[NASA-CASE-XHQ-01208] c 15 N70-35409  
Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492  
High pressure four-way valve Patent  
[NASA-CASE-XNP-00214] c 15 N70-36908  
Reinforcing means for diaphragm Patent  
[NASA-CASE-XNP-01962] c 32 N70-41370  
Multiway vortex valve system Patent  
[NASA-CASE-XMF-04709] c 15 N71-15609  
Multiple orifice throttle valve Patent  
[NASA-CASE-XNP-09698] c 15 N71-18580  
High pressure air valve Patent  
[NASA-CASE-MS-C-11010] c 15 N71-19485  
Valve seat with resilient support member Patent  
[NASA-CASE-XKS-02582] c 15 N71-21234  
Positive locking check valve Patent  
[NASA-CASE-XMS-09310] c 15 N71-22706  
Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191  
Valve seat  
[NASA-CASE-NPO-10606] c 15 N72-25451  
Evacuation valve  
[NASA-CASE-LAR-10061-1] c 15 N72-31483  
Flow control valve --- for high temperature fluids  
[NASA-CASE-NPO-11951-1] c 37 N74-21065  
Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136  
Reciprocating engines  
[NASA-CASE-MS-C-16239-1] c 37 N81-32510  
Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744  
Moisture content and gas sampling device  
[NASA-CASE-MS-C-18866-1] c 35 N85-29213  
Linear motion valve  
[NASA-CASE-MS-C-20148-1] c 37 N85-29284  
Reactant pressure differential control for fuel cell gases  
[NASA-CASE-MS-C-20127-2] c 37 N85-34403

**VANES**

Solar vane actuator Patent  
[NASA-CASE-XNP-05535] c 14 N71-23040  
Rotary vane attenuator wherein rotor has orthogonally disposed resistive and dielectric cards  
[NASA-CASE-NPO-11418-1] c 14 N73-13420  
Amplified wind turbine apparatus  
[NASA-CASE-MFS-23830-1] c 44 N82-24639  
Method of protecting a surface with a silicon-slurry/aluminate coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441

**VAPOR DEPOSITION**

A method for the deposition of beta-silicon carbide by isopitaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482  
Apparatus for producing high purity silicon carbide crystals Patent  
[NASA-CASE-XLA-02057] c 26 N70-40015  
Method of changing the conductivity of vapor deposited gallium arsenide by the introduction of water into the vapor deposition atmosphere Patent  
[NASA-CASE-XNP-01961] c 26 N71-29156  
Tungsten contacts on silicon substrates  
[NASA-CASE-GSC-10695-1] c 09 N72-25259  
Deposition apparatus  
[NASA-CASE-LAR-10541-1] c 15 N72-32487  
Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c 27 N74-13270  
System for depositing thin films  
[NASA-CASE-MFS-20775-1] c 31 N75-12161  
Vapor deposition apparatus --- semiconductors and gallium arsenides  
[NASA-CASE-HQN-10462] c 25 N75-29192

Chemical vapor deposition reactor --- providing uniform film thickness  
[NASA-CASE-NPO-13650-1] c 25 N79-28253  
Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005  
Ceramic honeycomb structures and the method thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737  
Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120

**VAPOR PHASES**

Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635  
Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027  
Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199  
Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339  
Pumped two-phase heat transfer loop  
[NASA-CASE-MS-C-20841-1] c 34 N87-22950

**VAPOR PRESSURE**

Venting vapor apparatus Patent  
[NASA-CASE-XLE-00288] c 15 N70-34247  
Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023  
Method and apparatus for convection control of metallic halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417

**VAPOR TRAPS**

Sorption vacuum trap Patent  
[NASA-CASE-XER-09519] c 14 N71-18483

**VAPORIZERS**

Boiler for generating high quality vapor Patent  
[NASA-CASE-XLE-00785] c 33 N71-16104  
Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184  
Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178

**VAPORIZING**

Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372  
Method for controlling vapor content of a gas  
[NASA-CASE-NPO-10633] c 03 N72-28025

**VAPORS**

Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846

**VARACTOR DIODE CIRCUITS**

Phase modulator Patent  
[NASA-CASE-MS-C-13201-1] c 07 N71-28429

**VARACTOR DIODES**

Varactor high level mixer  
[NASA-CASE-XGS-02171] c 09 N69-24324  
Multiple varactor frequency doubler Patent  
[NASA-CASE-XMF-04958-1] c 10 N71-26414  
Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c 33 N74-32660  
Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143

**VARIABILITY**

Variable speed drive  
[NASA-CASE-GSC-12643-1] c 37 N83-26078  
Slotted variable camber flap  
[NASA-CASE-LAR-12541-1] c 05 N84-22551

**VARIABLE CYCLE ENGINES**

Dual cycle aircraft turbine engine  
[NASA-CASE-LAR-11310-1] c 07 N77-28118  
Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384  
Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067

**VARIABLE GEOMETRY STRUCTURES**

Landing arrangement for aerial vehicles Patent  
[NASA-CASE-XLA-00142] c 02 N70-33286  
Variable geometry wind tunnels  
[NASA-CASE-XLA-07430] c 11 N72-22246  
Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392

**VARIABLE PITCH PROPELLERS**

Dual output variable pitch turbofan actuation system  
[NASA-CASE-LEW-12419-1] c 07 N77-14025  
Impact absorbing blade mounts for variable pitch blades  
[NASA-CASE-LEW-12313-1] c 37 N78-10468

**VARIABLE SWEEP WINGS**

Variable sweep wing configuration Patent  
[NASA-CASE-XLA-00230] c 02 N70-33255  
Variable sweep wing aircraft Patent  
[NASA-CASE-XLA-00221] c 02 N70-33266  
Variable-span aircraft Patent  
[NASA-CASE-XLA-00166] c 02 N70-34178  
Variable sweep aircraft wing Patent  
[NASA-CASE-XLA-00350] c 02 N70-38011

Variable sweep aircraft Patent  
[NASA-CASE-XLA-03659] c 02 N71-11041  
Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c 02 N73-26005

**VARIABLE THRUST**

Variable thrust ion engine utilizing thermally decomposable solid fuel Patent  
[NASA-CASE-XMF-00923] c 28 N70-36802  
Method for continuous variation of propellant flow and thrust in propulsive devices Patent  
[NASA-CASE-XLE-00177] c 28 N70-40367  
Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055

**VARIATIONS**

Bidirectional step torque filter with zero backlash characteristic Patent  
[NASA-CASE-XGS-04227] c 15 N71-21744

**VECTOR ANALYSIS**

Two force component measuring device Patent  
[NASA-CASE-XAC-04886-1] c 14 N71-20439

**VECTOR CURRENTS**

Preloadable vector sensitive latch  
[NASA-CASE-MS-C-20910-1] c 37 N87-25582

**VECTOCARDIOGRAPHY**

Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10858] c 05 N71-11189

**VEGETATION GROWTH**

Rotary plant growth accelerating apparatus --- weightlessness  
[NASA-CASE-ARC-10722-1] c 51 N75-25503  
Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c 43 N78-10529  
Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045

**VEHICLE WHEELS**

Deformable vehicle wheel Patent  
[NASA-CASE-MFS-20400] c 31 N71-18611  
Resilient wheel Patent  
[NASA-CASE-MFS-13929] c 15 N71-27091  
Omnidirectional wheel  
[NASA-CASE-MFS-21309-1] c 37 N74-18125  
Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MFS-20645-1] c 37 N74-23070  
Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477  
Tire/wheel concept  
[NASA-CASE-LAR-11695-2] c 37 N81-24443  
Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587

**VEHICLES**

Magnetic suspension and pointing system  
[NASA-CASE-LAR-11889-2] c 37 N78-27424

**VEHICULAR TRACKS**

Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587  
Tank tread assemblies with track-linking mechanism  
[NASA-CASE-NPO-16321-1CU] c 37 N87-17034

**VELOCITY**

Velocity limiting safety system Patent  
[NASA-CASE-XLA-07473] c 15 N71-24895

**VELOCITY COUPLING**

Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568

**VELOCITY MEASUREMENT**

Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c 14 N70-41332  
Superconductive accelerometer Patent  
[NASA-CASE-XMF-01099] c 14 N71-15969  
Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587  
Laser Doppler system for measuring three dimensional vector velocity Patent  
[NASA-CASE-MFS-20386] c 21 N71-19212  
Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c 14 N71-22990  
Angular velocity and acceleration measuring apparatus  
[NASA-CASE-ERC-10292] c 14 N72-25410  
Flow velocity and directional instrument  
[NASA-CASE-LAR-10855-1] c 14 N73-13415  
Doppler shift system --- system for measuring velocities of radiating particles  
[NASA-CASE-HQN-10740-1] c 72 N74-19310  
Tachometer  
[NASA-CASE-MFS-23175-1] c 35 N77-30436  
Velocity measurement system  
[NASA-CASE-MFS-23363-1] c 35 N78-32396  
Fluid velocity measuring device  
[NASA-CASE-LAR-11729-1] c 34 N79-12359

Air speed and attitude probe  
[NASA-CASE-FRC-11009-1] c 06 N80-18036

Fluidic angular velocity sensor  
[NASA-CASE-NPO-16479-1CU] c 35 N86-32695

Spinning disk calibration method and apparatus for laser Doppler velocimeter  
[NASA-CASE-ARC-11510-1] c 35 N86-32697

**VELOCITY MODULATION**

Molecular beam velocity selector Patent  
[NASA-CASE-XLE-01533] c 11 N71-10777

Apparatus for controlling the velocity of an electromechanical drive for interferometers and the like Patent  
[NASA-CASE-XGS-03532] c 14 N71-17627

**VENTILATION**

Protective garment ventilation system  
[NASA-CASE-XMS-04928] c 54 N78-17679

Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288

**VENTILATORS**

Heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c 54 N75-27761

**VENTING**

Venting vapor apparatus Patent  
[NASA-CASE-XLE-00288] c 15 N70-34247

Liquid storage tank venting device for zero gravity environment Patent  
[NASA-CASE-XLE-01449] c 15 N70-41646

Valve seat with resilient support member Patent  
[NASA-CASE-XKS-02582] c 15 N71-21234

Venting device for pressurized space suit helmet Patent  
[NASA-CASE-XMS-09652-1] c 05 N71-26333

Solid propellant rocket motor  
[NASA-CASE-XNP-03282] c 28 N72-20758

Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232

Passive venting technique for shallow cavities  
[NASA-CASE-LAR-13875-1] c 05 N89-14233

**VENTURI TUBES**

Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255

**VENUS (PLANET)**

Space simulator Patent  
[NASA-CASE-XNP-00459] c 11 N70-38675

**VERTICAL FLIGHT**

Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157

**VERTICAL LANDING**

Landing gear Patent  
[NASA-CASE-XMF-01174] c 02 N70-41589

**VERTICAL ORIENTATION**

Vertical shaft windmill  
[NASA-CASE-LAR-12923-1] c 37 N84-12493

**VERTICAL TAKEOFF AIRCRAFT**

Mechanical stability augmentation system Patent  
[NASA-CASE-XLA-06339] c 02 N71-13422

Attitude controls for VTOL aircraft Patent  
[NASA-CASE-XAC-08972] c 02 N71-20570

**VERY HIGH FREQUENCIES**

VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614

**VERY LARGE SCALE INTEGRATION**

Split-cross-bridge resistor for testing for proper fabrication of integrated circuits  
[NASA-CASE-NPO-16021-1] c 33 N85-30187

Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594

Systolic VLSI array for implementing the Kalman filter Algorithm  
[NASA-CASE-NPO-17108-1-CU] c 33 N87-27926

**VERY LONG BASE INTERFEROMETRY**

System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603

**VESTS**

Life preserver Patent  
[NASA-CASE-XMS-00864] c 05 N70-36493

**VIBRATION**

Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694

Active vibration isolator for flexible bodies Patent  
[NASA-CASE-LAR-10106-1] c 15 N71-27169

Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913

Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752

**VIBRATION DAMPING**

Viscous pendulum damper Patent  
[NASA-CASE-LAR-10274-1] c 14 N71-17626

Digital filter for reducing sampling jitter in digital control systems Patent  
[NASA-CASE-NPO-11088] c 08 N71-29034

Turbo-machine blade vibration damper Patent  
[NASA-CASE-XLE-00155] c 28 N71-29154

Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583

Variable force, eddy-current or magnetic damper  
[NASA-CASE-LEW-13717-1] c 37 N85-30333

Variable friction secondary seal for face seals  
[NASA-CASE-LEW-14170-1] c 37 N86-25790

**VIBRATION EFFECTS**

Thermal detector of electromagnetic energy by means of a vibrating electrode Patent  
[NASA-CASE-XAC-10768] c 09 N71-18830

Apparatus for recovering matter adhered to a host surface  
[NASA-CASE-NPO-11213] c 15 N73-20514

Spherical bearing --- to reduce vibration effects  
[NASA-CASE-MFS-23447-1] c 37 N79-11404

Self-locking double retention redundant full pin release  
[NASA-CASE-NPO-16233-1] c 37 N86-20801

**VIBRATION ISOLATORS**

Variable stiffness polymeric damper  
[NASA-CASE-XAC-11225] c 14 N69-27486

Miniature vibration isolator Patent  
[NASA-CASE-XLA-01019] c 15 N70-40156

Vibration damping system Patent  
[NASA-CASE-XMS-01620] c 23 N71-15673

Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c 15 N71-26243

Dynamic vibration absorber Patent  
[NASA-CASE-LAR-10083-1] c 15 N71-27006

Vibration isolation system using compression springs  
[NASA-CASE-NPO-11012] c 15 N72-11391

Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft  
[NASA-CASE-MFS-21680-1] c 18 N74-27397

Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c 37 N75-18573

Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221

Shock isolator for operating a diode laser on a closed-cycle refrigerator  
[NASA-CASE-GSC-12297-1] c 37 N79-28549

Decoupler pylon: wing/store flutter suppressor  
[NASA-CASE-LAR-12468-1] c 08 N82-32373

Vibration isolation and pressure compensation apparatus for sensitive instrumentation  
[NASA-CASE-LAR-12728-1] c 35 N83-32026

Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947

Variable force, eddy-current or magnetic damper  
[NASA-CASE-LEW-13717-1] c 37 N85-30333

Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

**VIBRATION MEASUREMENT**

Method and apparatus for measuring the damping characteristics of a structure  
[NASA-CASE-ARC-10154-1] c 14 N72-22440

Method and apparatus for vibration analysis utilizing the Mossbauer effect  
[NASA-CASE-XMF-05882] c 35 N75-27329

Displacement probes with self-contained exciting medium  
[NASA-CASE-LAR-11690-1] c 35 N80-14371

Emitted vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670

**VIBRATION METERS**

Fiber optic vibration transducer and analyzer Patent  
[NASA-CASE-XMF-02433] c 14 N71-10616

Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445

**VIBRATION MODE**

Function generator for synthesizing complex vibration mode patterns  
[NASA-CASE-LAR-10310-1] c 10 N73-20253

**VIBRATION SIMULATORS**

Apparatus for vibrational testing of articles  
[NASA-CASE-GSC-11302-1] c 14 N73-13416

**VIBRATION TESTS**

Peak acceleration limiter for vibrational tester Patent  
[NASA-CASE-NPO-10556] c 14 N71-27185

Fixture for supporting articles during vibration tests  
[NASA-CASE-MFS-20523] c 14 N72-27412

Apparatus for vibrational testing of articles  
[NASA-CASE-GSC-11302-1] c 14 N73-13416

Multi axes vibration fixtures  
[NASA-CASE-MFS-20242] c 14 N73-19421

Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12458-1] c 44 N83-21503

**VIBRATIONAL SPECTRA**

Dynamic vibration absorber Patent  
[NASA-CASE-LAR-10083-1] c 15 N71-27006

**VIDE COMMUNICATION**

Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11281

Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026

Video communication system and apparatus Patent  
[NASA-CASE-XNP-06611] c 07 N71-26102

Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328

**VIDEO DATA**

Digital television camera control system Patent  
[NASA-CASE-XNP-01472] c 14 N70-41807

Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866

Facsimile video remodulation network  
[NASA-CASE-GSC-10185-1] c 07 N72-12081

Dual digital video switcher  
[NASA-CASE-KSC-10782-1] c 33 N75-30431

Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1CU] c 60 N86-24224

**VIDEO EQUIPMENT**

Television signal processing system Patent  
[NASA-CASE-NPO-10140] c 07 N71-24742

Video sync processor Patent  
[NASA-CASE-KSC-10002] c 10 N71-25865

Video communication system and apparatus Patent  
[NASA-CASE-XNP-06611] c 07 N71-26102

Video signal enhancement system with dynamic range compression and modulation index expansion Patent  
[NASA-CASE-NPO-10343] c 07 N71-27341

Broadband video process with very high input impedance  
[NASA-CASE-NPO-10199] c 09 N72-17156

Electronic video editor  
[NASA-CASE-KSC-10003] c 10 N73-13235

Scan converting video tape recorder  
[NASA-CASE-NPO-10166-1] c 07 N73-22076

Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c 35 N76-16391

Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656

Programmable pipelined image processor  
[NASA-CASE-NPO-16461-1CU] c 60 N86-23283

Reconfigurable work station for a video display unit and keyboard  
[NASA-CASE-MFS-26009-1-SB] c 54 N88-24163

**VIDEO SIGNALS**

Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247

Television camera video level control system  
[NASA-CASE-MSC-18578-1] c 32 N85-21427

Large TV display system  
[NASA-CASE-NPO-16932-1CU] c 33 N87-15413

Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348

**VIDICONS**

Method of erasing target material of a vidicon tube or the like Patent  
[NASA-CASE-XNP-06028] c 09 N71-23189

Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036

**VIEWING**

Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920

Double window viewing chamber assembly  
[NASA-CASE-MFS-28057-1] c 09 N87-14355

**VINYL COPOLYMERS**

Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560

Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908

Structural panels  
[NASA-CASE-ARC-11429-2-CU] c 27 N87-22845

**VINYL POLYMERS**

Method of using photovoltaic cell using poly-N-vinylcarbazole complex Patent  
[NASA-CASE-NPO-10373] c 03 N71-18698

Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-1] c 27 N78-32256

Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MSC-14903-2] c 27 N80-10358

Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-3] c 27 N80-24438

**VINYLDIENE**

Dicyanoacetylene polymers Patent  
[NASA-CASE-XNP-03250] c 06 N71-23500

**VIRUSES**

Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693

**VISCOELASTICITY**

Resilience testing device Patent  
[NASA-CASE-XLA-08254] c 14 N71-26161

Parallel-plate viscometer with double diaphragm suspension  
[NASA-CASE-NPO-11387] c 14 N73-14429

Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c 37 N75-18573

Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104

**VISCOMETERS**

Parallel plate viscometer Patent  
[NASA-CASE-XNP-09462] c 14 N71-17584

Parallel-plate viscometer with double diaphragm suspension  
[NASA-CASE-NPO-11387] c 14 N73-14429

**VISCOSITY**

Low viscosity magnetic fluid obtained by the colloidal suspension of magnetic particles Patent  
[NASA-CASE-XLE-01512] c 12 N70-40124

Viscosity measuring instrument  
[NASA-CASE-NPO-14501-1] c 35 N80-18357

Process of end-capping a polyimide system  
[NASA-CASE-LAR-13135-1] c 27 N86-19456

**VISCOUS DAMPING**

Variable stiffness polymeric damper  
[NASA-CASE-XAC-11225] c 14 N69-27486

Viscous-pendulum-damper Patent  
[NASA-CASE-XLA-02079] c 12 N71-16894

Viscous pendulum damper Patent  
[NASA-CASE-LAR-10274-1] c 14 N71-17626

Multiple plate hydrostatic viscous damper  
[NASA-CASE-LEW-12445-1] c 37 N81-22360

**VISIBILITY**

Controlled visibility device for an aircraft Patent  
[NASA-CASE-XFR-04147] c 11 N71-10748

Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673

**VISIBLE SPECTRUM**

Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059

**VISION**

Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

**VISORS**

Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
[NASA-CASE-MSC-13530-2] c 23 N75-14834

**VISUAL ACUITY**

Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c 54 N75-27759

**VISUAL CONTROL**

Visual target for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c 31 N69-27499

Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059

**VISUAL FIELDS**

Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c 05 N73-26072

Visual examination apparatus  
[US-PATENT-RE-28,921] c 52 N76-30793

Binocular device for displaying numerical information in field of view  
[NASA-CASE-LAR-11782-1] c 74 N77-20882

Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-1] c 09 N84-12193

**VISUAL OBSERVATION**

Automatic visual inspection system for microelectronics  
[NASA-CASE-NPO-13282] c 38 N78-17396

**VISUAL PERCEPTION**

Liquid flow sight assembly Patent  
[NASA-CASE-XLE-02998] c 14 N70-42074

Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678

Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-2] c 52 N89-16256

**VISUAL STIMULI**

Reaction tester  
[NASA-CASE-MSC-13604-1] c 05 N73-13114

**VITERBI DECODERS**

Space communication system for compressed data with a concatenated Reed-Solomon-Viterbi coding channel  
[NASA-CASE-NPO-13545-1] c 32 N77-12240

**VOICE COMMUNICATION**

Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958

Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621

Protective suit having an audio transceiver Patent  
[NASA-CASE-KSC-10164] c 07 N71-33108

Technique for recovery of voice data from heat damaged magnetic tape  
[NASA-CASE-MSC-14219-1] c 32 N74-27612

Filtering device --- removing electromagnetic noise from voice communication signals  
[NASA-CASE-MFS-22729-1] c 32 N76-21366

Real time analysis of voiced sounds  
[NASA-CASE-MSC-13465-1] c 32 N76-31372

Satellite personal communications system  
[NASA-CASE-NPO-14480-1] c 32 N80-20448

**VOICE DATA PROCESSING**

Digital communication system  
[NASA-CASE-MSC-13912-1] c 32 N74-30524

Method and apparatus for operating on compressed PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513

**VOLATILITY**

Apparatus for testing polymeric materials Patent  
[NASA-CASE-XNP-09699] c 06 N71-24607

**VOLT-AMPERE CHARACTERISTICS**

Voltage-current characteristic simulator Patent  
[NASA-CASE-XMS-01554] c 10 N71-10578

The dc-to-dc converters employing staggered-phase power switches with two-loop control  
[NASA-CASE-NPO-13512-1] c 33 N77-10428

Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-12193

**VOLTAGE AMPLIFIERS**

Electronic amplifier with power supply switching Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798

Bootstrap unloader Patent  
[NASA-CASE-XNP-09768] c 09 N71-12516

Active RC networks  
[NASA-CASE-ARC-10020] c 10 N72-17172

Wide range analog-to-digital converter with a variable gain amplifier  
[NASA-CASE-NPO-11018] c 08 N72-21200

Voltage feed through apparatus having reduced partial discharge  
[NASA-CASE-GSC-12347-1] c 33 N80-18286

Arc lamp power supply using a voltage multiplier  
[NASA-CASE-LAR-13202-1] c 33 N88-23942

**VOLTAGE CONTROLLED OSCILLATORS**

Pulsed phase locked loop strain monitor --- voltage controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626

Automatic oscillator frequency control system  
[NASA-CASE-GSC-12804-1] c 33 N86-20668

Radio Frequency (RF) strain monitor  
[NASA-CASE-LAR-13705-1] c 39 N88-25011

**VOLTAGE CONVERTERS (DC TO DC)**

Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c 33 N74-11049

The dc-to-dc converters employing staggered-phase power switches with two-loop control  
[NASA-CASE-NPO-13512-1] c 33 N77-10428

Inrush current limiter  
[NASA-CASE-GSC-11789-1] c 33 N77-14333

Phase substitution of spare converter for a failed one of parallel phase staggered converters  
[NASA-CASE-NPO-13812-1] c 33 N77-30365

Regulated high efficiency, lightweight capacitor-diode multiplier dc to dc converter  
[NASA-CASE-LEW-12791-1] c 33 N78-32341

Buck/boost regulator  
[NASA-CASE-GSC-12360-1] c 33 N81-19392

Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393

Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404

Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494

A dc to dc converter  
[NASA-CASE-MFS-25430-1] c 33 N84-16453

Simplified dc to dc converter  
[NASA-CASE-LEW-13495-1] c 33 N84-33663

**VOLTAGE GENERATORS**

Pulsed energy power system Patent  
[NASA-CASE-MSC-13112] c 03 N71-11057

Telemeter adaptable for implanting in an animal Patent  
[NASA-CASE-XAC-05706] c 05 N71-12342

Multiple slope sweep generator Patent  
[NASA-CASE-XMS-03542] c 09 N71-28926

Controllable load insensitive power converters  
[NASA-CASE-ERC-10268] c 09 N72-25252

Driver for solar cell I-V characteristic plots  
[NASA-CASE-NPO-14096-1] c 44 N80-18551

Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953

**VOLTAGE REGULATORS**

Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c 03 N69-21330

Power control circuit  
[NASA-CASE-XNP-02713] c 10 N69-39888

Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986

Bus voltage compensation circuit for controlling direct current motor  
[NASA-CASE-XMS-04215-1] c 09 N69-39987

Regulated power supply Patent  
[NASA-CASE-XMS-01991] c 09 N71-21449

High voltage divider system Patent  
[NASA-CASE-XLE-02008] c 09 N71-21583

Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543

Voltage to frequency converter Patent  
[NASA-CASE-GSC-10022-1] c 10 N71-25882

Buck boost voltage regulation circuit Patent  
[NASA-CASE-GSC-10735-1] c 10 N71-26085

Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244

Voltage regulator with plural parallel power source sections Patent  
[NASA-CASE-GSC-10891-1] c 10 N71-26626

Maximum power point tracker Patent  
[NASA-CASE-GSC-10376-1] c 14 N71-27407

High power microwave power divider Patent  
[NASA-CASE-NPO-11031] c 07 N71-33606

Reference voltage switching unit  
[NASA-CASE-NPO-11253] c 09 N72-17157

Switching regulator  
[NASA-CASE-LEW-11005-1] c 09 N72-21243

Controllable load insensitive power converters  
[NASA-CASE-ERC-10268] c 09 N72-25252

Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c 33 N74-11049

Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c 33 N74-17929

Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MFS-21671-1] c 33 N74-22885

Voltage monitoring system  
[NASA-CASE-KSC-10736-1] c 33 N75-19521

Transformer regulated self-stabilizing chopper  
[NASA-CASE-XGS-09186] c 33 N78-17295

Voltage regulator for battery power source --- using a bipolar transistor  
[NASA-CASE-FRC-10116-1] c 33 N79-23345

Buck/boost regulator  
[NASA-CASE-GSC-12360-1] c 33 N81-19392

Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360

Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418

Three phase power factor controller  
[NASA-CASE-MFS-25535-2] c 33 N84-22885

High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146

**VOLTMETERS**

Voltage monitoring system  
[NASA-CASE-KSC-10736-1] c 33 N75-19521

**VOLUME**

Mining volume measurement system  
[NASA-CASE-LAR-13519-1] c 35 N88-23963

**VOLUMETRIC ANALYSIS**

Volumetric direct nuclear pumped laser  
[NASA-CASE-LAR-12183-1] c 36 N79-18307

**VOMITING**

Venting device for pressurized space suit helmet Patent  
[NASA-CASE-XMS-09652-1] c 05 N71-26333

**VORTEX BREAKDOWN**

Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c 02 N77-10001

**VORTEX GENERATORS**

Multiway vortex valve system Patent  
[NASA-CASE-XMF-04709] c 15 N71-15609

Vortex generator for controlling the dispersion of effluents in a flowing liquid  
[NASA-CASE-LAR-12045-1] c 34 N77-24423

Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433

Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194

**VORTICES**

Vortex-lift roll-control device  
[NASA-CASE-LAR-11868-2] c 08 N79-14108

**VORTICITY**

Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759

**VULCANIZING**

- Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c 31 N74-18124

**W****WAFERS**

- Apparatus and method for separating a semiconductor wafer Patent  
[NASA-CASE-ERC-10138] c 26 N71-14354  
Apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
[NASA-CASE-MFS-23315-1] c 76 N78-24950  
System for slicing silicon wafers  
[NASA-CASE-NPO-14406-1] c 37 N80-29703  
Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469  
Method of Fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780  
Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709  
High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764  
Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-15670-1] c 33 N82-33634  
High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177  
Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888  
Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884  
Imaging X-ray spectrometer  
[NASA-CASE-GSC-12682-1] c 35 N84-33765  
Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112  
Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113  
Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650  
Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875  
Cross-contact chain  
[NASA-CASE-NPO-16784-1] c 33 N87-10231  
Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879

**WAKES**

- Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679

**WALKING**

- Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112

**WALKING MACHINES**

- Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828

**WALL TEMPERATURE**

- Method of making apparatus for sensing temperature  
[NASA-CASE-XLE-05230-2] c 14 N73-13417  
Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c 34 N75-12222  
Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523  
Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144

**WALLS**

- Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411  
Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279  
Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

**WARNING SYSTEMS**

- Out of tolerance warning alarm system for plurality of monitored circuits Patent  
[NASA-CASE-XMS-10984-1] c 10 N71-19417  
Unsaturating saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893  
Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186  
Combustion products generating and metering device  
[NASA-CASE-GSC-11095-1] c 14 N72-10375  
Stacked array of omnidirectional antennas  
[NASA-CASE-LAR-10545-1] c 09 N72-21244  
Display research collision warning system  
[NASA-CASE-HQN-10703] c 21 N73-13643  
System for indicating direction of intruder aircraft  
[NASA-CASE-ERC-10226-1] c 14 N73-16483

- Silent emergency alarm system for schools and the like  
[NASA-CASE-NPO-11307-1] c 10 N73-30205  
Apparatus for aiding a pilot in avoiding a midair collision between aircraft  
[NASA-CASE-LAR-10717-1] c 21 N73-30641  
Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c 35 N74-18090  
Hearing aid malfunction detection system  
[NASA-CASE-MS-C-14916-1] c 33 N78-10375  
Automatic communication signal monitoring system  
[NASA-CASE-NPO-13941-1] c 32 N79-10262  
Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559  
Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272

**WASHING**

- Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039

**WASTE DISPOSAL**

- Relief container  
[NASA-CASE-XMS-06761] c 05 N69-23192  
An airlock  
[NASA-CASE-MFS-20922] c 31 N72-20840  
Liquid waste feed system  
[NASA-CASE-LAR-10365-1] c 05 N72-27102  
Reduced gravity fecal collector seat and urinal  
[NASA-CASE-MFS-22102-1] c 54 N74-20725  
Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136  
Automatic liquid inventory collecting and dispensing unit  
[NASA-CASE-LAR-11071-1] c 35 N75-19611  
Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804  
Absorbent product and articles made therefrom  
[NASA-CASE-MSC-18223-2] c 54 N84-11758  
Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495

**WASTE ENERGY UTILIZATION**

- Automotive absorption air conditioner utilizing solar and motor waste heat  
[NASA-CASE-NPO-15183-1] c 44 N82-26776  
Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029  
Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

**WASTE HEAT**

- Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461

**WASTE UTILIZATION**

- Simultaneous treatment of SO<sub>2</sub> containing stack gases and waste water  
[NASA-CASE-MSC-16258-1] c 45 N79-12584

**WASTE WATER**

- Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693  
Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747  
Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654

**WATER**

- High power-high voltage waterload Patent  
[NASA-CASE-XNP-05381] c 09 N71-20842  
Procedure and apparatus for determination of water in nitrogen tetroxide  
[NASA-CASE-NPO-10234] c 06 N72-17094  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-1] c 37 N76-16446  
Solar hydrogen generator  
[NASA-CASE-LAR-11361-1] c 44 N77-22607  
Remote water monitoring system  
[NASA-CASE-LAR-11973-1] c 35 N78-27384  
Solar photolysis of water  
[NASA-CASE-NPO-14126-1] c 44 N79-11470

**WATER FLOW**

- Potable water dispenser  
[NASA-CASE-MFS-21115-1] c 54 N74-12779  
Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

**WATER INJECTION**

- Reentry communication by material addition Patent  
[NASA-CASE-XLA-01552] c 07 N71-11284

**WATER LANDING**

- Vehicle parachute and equipment jettison system Patent  
[NASA-CASE-XLA-00195] c 02 N70-38009  
Emergency earth orbital escape device  
[NASA-CASE-MSC-13281] c 31 N72-18859

**WATER MANAGEMENT**

- Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c 03 N71-24718  
Solar-powered pump  
[NASA-CASE-NPO-13567-1] c 44 N76-29701

**WATER POLLUTION**

- Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086  
Bacterial contamination monitor  
[NASA-CASE-GSC-10879-1] c 14 N72-25413  
Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MSC-16777-1] c 51 N80-27067

**WATER QUALITY**

- Fluid sample collection and distribution system --- qualitative analysis of aqueous samples from several points  
[NASA-CASE-MSC-16841-1] c 34 N79-24285  
Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569  
Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849

**WATER RECLAMATION**

- Recovery of potable water from human wastes in below-G conditions Patent  
[NASA-CASE-XLA-03213] c 05 N71-11207  
Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693  
Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345

**WATER RESOURCES**

- Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498

**WATER TEMPERATURE**

- Differential temperature transducer Patent  
[NASA-CASE-XAC-00812] c 14 N71-15598

**WATER TREATMENT**

- Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c 03 N71-24718  
Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge  
[NASA-CASE-ARC-10643-1] c 25 N75-12087  
Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c 54 N78-14784  
Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693  
Simultaneous treatment of SO<sub>2</sub> containing stack gases and waste water  
[NASA-CASE-MSC-16258-1] c 45 N79-12584  
Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747  
Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579  
Reverse osmosis membrane of high urea rejection properties --- water purification  
[NASA-CASE-ARC-10980-1] c 27 N80-23452  
Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076  
Sewage sludge additive  
[NASA-CASE-NPO-13877-1] c 45 N82-11634  
Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654

**WATER VAPOR**

- Vapor pressure measuring system and method Patent  
[NASA-CASE-XMS-01618] c 14 N71-20741  
Cell and method for electrolysis of water and anode  
[NASA-CASE-MSC-16394-1] c 28 N81-24280  
Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681

**WATER WAVES**

- Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391  
Oceanic wave measurement system  
[NASA-CASE-MFS-23862-1] c 48 N80-18667

**WATERPROOFING**

- Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063

Elevated waterproof access floor system and method of making the same  
[NASA-CASE-ARC-11363-1] c 31 N87-16918

**WATERWAVE ENERGY CONVERSION**  
Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834

**WAVE AMPLIFICATION**  
Distributed feedback acoustic surface wave oscillator  
[NASA-CASE-NPO-13673-1] c 71 N77-26919

**WAVE DIFFRACTION**  
Diffraction grating configuration for X-ray and ultraviolet focusing  
[NASA-CASE-GSC-12357-1] c 74 N80-21140

**WAVE FRONT RECONSTRUCTION**  
Recording and reconstructing focused image holograms Patent  
[NASA-CASE-ERC-10017] c 16 N71-15567

**WAVE GENERATION**  
Wind tunnel airstream oscillating apparatus Patent  
[NASA-CASE-XLA-00112] c 11 N70-33287  
Linear sawtooth voltage-wave generator employing transistor timing circuit having capacitor-zener diode combination feedback Patent  
[NASA-CASE-XMS-01315] c 09 N70-41675  
Waveform simulator Patent  
[NASA-CASE-NPO-10251] c 10 N71-27365  
Wide band doubler and sine wave quadrature generator  
[NASA-CASE-NPO-11133] c 10 N72-20223  
Material suspension within an acoustically excited resonant chamber --- at near weightless conditions  
[NASA-CASE-NPO-13263-1] c 12 N75-24774  
Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752

**WAVE INTERACTION**  
Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568

**WAVE PROPAGATION**  
Double reference pulsed phase locked loop  
[NASA-CASE-LAR-13310-1] c 32 N87-14559

**WAVE REFLECTION**  
Microwave flow detector Patent  
[NASA-CASE-ARC-10009-1] c 15 N71-17822  
Millimeter wave antenna system Patent Application  
[NASA-CASE-GSC-10949-1] c 07 N71-28965

**WAVE RESISTANCE**  
Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145

**WAVE SCATTERING**  
Device and method for determining X ray reflection efficiency of optical surfaces  
[NASA-CASE-MFS-20243] c 23 N73-13662  
Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327

**WAVEFORMS**  
Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00131] c 09 N70-38995  
Single or joint amplitude distribution analyzer Patent  
[NASA-CASE-XNP-01383] c 09 N71-10659  
Peak polarity selector Patent  
[NASA-CASE-FRC-10010] c 10 N71-24862  
Family of frequency to amplitude converters  
[NASA-CASE-MSC-12395] c 09 N72-25257  
Apparatus for statistical time-series analysis of electrical signals  
[NASA-CASE-MSC-12428-1] c 10 N73-25240  
Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249  
Speech analyzer  
[NASA-CASE-GSC-11898-1] c 32 N77-30309  
Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337

**WAVEGUIDE ANTENNAS**  
Virtual wall slot circularly polarized planar array antenna  
[NASA-CASE-NPO-10301] c 07 N72-11148

**WAVEGUIDE FILTERS**  
High power microwave power divider Patent  
[NASA-CASE-NPO-11031] c 07 N71-33606

**WAVEGUIDE WINDOWS**  
Broadband microwave waveguide window Patent  
[NASA-CASE-XNP-08880] c 09 N71-24808

**WAVEGUIDES**  
Dual waveguide mode source having control means for adjusting the relative amplitude of two modes Patent  
[NASA-CASE-XNP-03134] c 07 N71-10676  
Folded traveling wave maser structure Patent  
[NASA-CASE-XNP-05219] c 16 N71-15550  
Quasi-optical microwave component Patent  
[NASA-CASE-ERC-10011] c 07 N71-29065

Waveguide mixer  
[NASA-CASE-ERC-10179] c 07 N72-20141  
Active microwave irises and windows  
[NASA-CASE-LAR-10513-1] c 07 N72-25170  
Thin film microwave iris  
[NASA-CASE-LAR-10511-1] c 09 N72-29172  
Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c 33 N75-26245  
Diffused waveguiding capillary tube with distributed feedback for a gas laser  
[NASA-CASE-NPO-13544-1] c 36 N76-18428  
Dielectric-loaded waveguide circulator for cryogenically cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372  
Support assembly for cryogenically coolable low-noise choke waveguide  
[NASA-CASE-NPO-14253-1] c 32 N80-32605  
Coaxial phased array antenna  
[NASA-CASE-MSC-16800-1] c 32 N81-14187  
Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568  
Waveguide cooling system  
[NASA-CASE-NPO-15401-1] c 32 N83-27085

**WAVELENGTHS**  
Method and apparatus for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c 16 N69-31343  
Instrument for the quantitative measurement of radiation at multiple wave lengths Patent  
[NASA-CASE-XLE-00011] c 14 N70-41946  
Optical systems having spatially invariant outputs  
[NASA-CASE-ERC-10248] c 14 N72-17323  
Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409  
Monitoring deposition of films  
[NASA-CASE-MFS-20675] c 26 N73-26751  
Dual wavelength scanning Doppler velocimeter --- without perturbation of flow fields  
[NASA-CASE-ARC-10637-1] c 35 N75-16783  
Diatom infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426  
Fluorescent radiation converter  
[NASA-CASE-GSC-12528-1] c 74 N81-24900  
Acoustic levitation methods and apparatus  
[NASA-CASE-NPO-15562-1] c 71 N82-27086  
Extended range X-ray telescope  
[NASA-CASE-MFS-25282-1] c 34 N83-19015  
Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680  
Acoustic suspension system  
[NASA-CASE-NPO-15435-1] c 71 N83-36846  
Dual wavelength holographic interferometry system  
[NASA-CASE-MFS-28242-1] c 35 N88-23960

**WAVES**  
Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834

**WEAR**  
Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371

**WEAR INHIBITORS**  
Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540

**WEATHERPROOFING**  
Weatherproof helix antenna Patent  
[NASA-CASE-XKS-08485] c 07 N71-19493

**WEBS (SHEETS)**  
Method and apparatus for measuring web material wound on a reel  
[NASA-CASE-GSC-11902-1] c 38 N77-17495  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-2] c 35 N85-34373

**WEBS (SUPPORTS)**  
Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-2] c 07 N78-18066  
Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-3] c 07 N79-14096

**WEDGES**  
Two dimensional wedge/translating shroud nozzle  
[NASA-CASE-LAR-11919-1] c 07 N78-27121

**WEIGHT (MASS)**  
Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146  
System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

## WEIGHT INDICATORS

Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945  
Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558

**WEIGHT MEASUREMENT**  
Automatic force measuring system Patent  
[NASA-CASE-XLA-02605] c 14 N71-10773  
Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945  
Portable pallet weighing apparatus  
[NASA-CASE-GSC-12789-1] c 35 N85-20294

**WEIGHTLESSNESS**  
Apparatus for transferring cryogenic liquids Patent  
[NASA-CASE-XLE-00345] c 15 N70-38020  
Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062  
Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233  
Zero gravity starting means for liquid propellant motors Patent  
[NASA-CASE-XNP-01390] c 28 N70-41275  
Liquid-gas separator for zero gravity environment Patent  
[NASA-CASE-XMS-01492] c 05 N70-41297  
Recovery of potable water from human wastes in below-G conditions Patent  
[NASA-CASE-XLA-03213] c 05 N71-11207  
Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968  
Reduced gravity simulator Patent  
[NASA-CASE-XLA-01787] c 11 N71-16028  
Method and apparatus of simulating zero gravity conditions Patent  
[NASA-CASE-MFS-12750] c 27 N71-16223  
Quick disconnect latch and handle combination Patent  
[NASA-CASE-MFS-11132] c 15 N71-17649  
Spherical tank gauge Patent  
[NASA-CASE-XMS-06236] c 14 N71-21007  
Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c 14 N71-23227  
Skeletal stressing method and apparatus Patent  
[NASA-CASE-ARC-10100-1] c 05 N71-24738  
Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036  
Method of making foamed materials in zero gravity  
[NASA-CASE-XMF-09902] c 15 N72-11387  
Remote control manipulator for zero gravity environment  
[NASA-CASE-MFS-14405] c 15 N72-28495  
Zero gravity liquid mixer  
[NASA-CASE-LAR-10195-1] c 15 N73-19458  
Zero gravity liquid transfer screen  
[NASA-CASE-KSC-10626] c 14 N73-27378  
Reduced gravity fecal collector seat and urinal  
[NASA-CASE-MFS-22102-1] c 54 N74-20725  
Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c 34 N74-27744  
Rotary plant growth accelerating apparatus --- weightlessness  
[NASA-CASE-ARC-10722-1] c 51 N75-25503  
Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c 34 N75-26282  
Method for manufacturing mirrors in zero gravity environment  
[NASA-CASE-MSC-12611-1] c 12 N76-15189  
Fluid mass sensor for a zero gravity environment  
[NASA-CASE-MSC-14653-1] c 35 N77-19385  
Method of crystallization --- in gravity-free environments  
[NASA-CASE-MFS-23001-1] c 76 N77-32919  
Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278  
Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319  
Sample levitation and melt in microgravity  
[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489

**WEIGHTLESSNESS SIMULATION**  
Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988  
Mass measuring system Patent  
[NASA-CASE-XMS-03371] c 05 N70-42000  
Harness assembly Patent  
[NASA-CASE-MFS-14671] c 05 N71-12341  
Whole body measurement systems --- for weightlessness simulation  
[NASA-CASE-MSC-13972-1] c 52 N74-10975  
Weightlessness simulation system and process  
[NASA-CASE-ARC-11646-1] c 14 N87-25344

**WELD STRENGTH**  
Grain refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c 37 N75-19683



## WELD TESTS

- Determination of spot weld quality Patent  
[NASA-CASE-XNP-02588] c 15 N71-18613  
Method and apparatus for swept-frequency impedance measurements of welds  
[NASA-CASE-ARC-10176-1] c 15 N72-21464

## WELDED JOINTS

- Apparatus for welding blades to rotors  
[NASA-CASE-LEW-10533-2] c 37 N74-11300  
Ultrasonic scanning system for in-place inspection of brazed tube joints  
[NASA-CASE-MFS-20767-1] c 38 N74-15130  
Device for measuring the ferrite content in an austenitic stainless-steel weld  
[NASA-CASE-MFS-22907-1] c 26 N76-18257  
Capillary flow weld-bonding  
[NASA-CASE-LAR-11726-1] c 37 N76-27568  
Automated weld torch guidance control system  
[NASA-CASE-MFS-25807-2] c 37 N86-21850

## WELDED STRUCTURES

- Grain refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c 37 N75-19683  
Flanged major modular assembly jig  
[NASA-CASE-MSC-19372-1] c 39 N76-31562  
Weld-bonded titanium structures  
[NASA-CASE-LAR-11549-1] c 37 N77-11397  
Bimetallic junctions  
[NASA-CASE-LEW-11573-1] c 26 N77-28265

## WELDING

- Segmented back-up bar Patent  
[NASA-CASE-XMF-00640] c 15 N70-39924  
Flexible back-up bar Patent  
[NASA-CASE-XMF-00722] c 15 N70-40204  
Apparatus for welding sheet material --- butt joints  
[NASA-CASE-XMS-01330] c 37 N75-27376  
Weld-bonded titanium structures  
[NASA-CASE-LAR-11549-1] c 37 N77-11397  
Method and apparatus for holding two separate metal pieces together for welding  
[NASA-CASE-GSC-12318-1] c 37 N80-23655  
Automatic weld torch guidance control system  
[NASA-CASE-MFS-25807] c 37 N83-20154  
Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338  
Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736  
Alignment and assembly tool for very large diameter cylinders  
[NASA-CASE-MFS-28001-2] c 37 N88-14360  
Optically controlled welding system  
[NASA-CASE-MFS-29291-1] c 37 N89-12868

## WELDING MACHINES

- Apparatus for welding torch angle and seam tracking control Patent  
[NASA-CASE-XMF-03287] c 15 N71-15607  
Automatic welding speed controller Patent  
[NASA-CASE-XMF-01730] c 15 N71-23050  
Electric welding torch Patent  
[NASA-CASE-XMF-02330] c 15 N71-23798  
Welding skate with computerized control Patent  
[NASA-CASE-XMF-07069] c 15 N71-23815  
Computerized system for translating a torch head  
[NASA-CASE-MFS-23620-1] c 37 N79-10421  
Welding torch with arc light reflector  
[NASA-CASE-MFS-29134-1] c 74 N87-17493  
Welding monitoring system  
[NASA-CASE-MFS-29177-1] c 37 N88-14362

## WET CELLS

- Method and device for determining battery state of charge Patent  
[NASA-CASE-NPO-10194] c 03 N71-20407

## WETTING

- Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471

## WHEATSTONE BRIDGES

- Self-balancing strain gage transducer Patent  
[NASA-CASE-MFS-12827] c 14 N71-17656  
Method for improving the signal-to-noise ratio of the Wheatstone bridge type bolometer Patent  
[NASA-CASE-XLA-02810] c 14 N71-25901  
Temperature control system with a pulse width modulated bridge  
[NASA-CASE-NPO-11304] c 14 N73-26430  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-2] c 35 N85-34373

## WHEELS

- Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037

## WHISKER COMPOSITES

- Reinforced metallic composites Patent  
[NASA-CASE-XLE-00228] c 17 N70-38490

## WHISKERS (CRYSTALS)

- Catalyst for growth of boron carbide single crystal whiskers  
[NASA-CASE-XHQ-03903] c 15 N69-21922

## WICKS

- Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c 34 N76-27515  
Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180  
Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133

## WIDE ANGLE LENSES

- Wide angle long eye relief eyepiece Patent  
[NASA-CASE-XMS-06056-1] c 23 N71-24857

## WIDEBAND COMMUNICATION

- Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346  
Multiple band circularly polarized microstrip antenna  
[NASA-CASE-MSC-18334-1] c 32 N80-32604

## WINCHES

- Winch having cable position and load indicators Patent  
[NASA-CASE-MSC-12052-1] c 15 N71-24599

## WIND DIRECTION

- Radionuclide counting technique for measuring wind velocity and direction  
[NASA-CASE-LAR-12971-1] c 47 N84-28292

## WIND EFFECTS

- Viscous pendulum damper Patent  
[NASA-CASE-LAR-10274-1] c 14 N71-17626  
Aircraft liftmeter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

## WIND MEASUREMENT

- Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMF-14032] c 20 N71-16340  
Maxometers (peak wind speed anemometers)  
[NASA-CASE-MFS-20916] c 14 N73-25460  
Wind sensor  
[NASA-CASE-NPO-13462-1] c 35 N76-24524  
Focused laser Doppler velocimeter  
[NASA-CASE-MFS-23178-1] c 35 N77-10493  
Wind measurement system  
[NASA-CASE-MFS-23362-1] c 47 N77-10753

## WIND PROFILES

- Wind velocity probing device and method Patent  
[NASA-CASE-XLA-02081] c 20 N71-16281

## WIND SHEAR

- CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040  
Aircraft liftmeter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

## WIND TUNNEL APPARATUS

- Wind tunnel airstream oscillating apparatus Patent  
[NASA-CASE-XLA-00112] c 11 N70-33287  
Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c 25 N70-41628  
Test unit free-flight suspension system Patent  
[NASA-CASE-XLA-00939] c 11 N71-15926  
Burst diaphragm flow initiator Patent  
[NASA-CASE-MFS-12915] c 11 N71-17600  
Electric arc apparatus Patent  
[NASA-CASE-XAC-01677] c 09 N71-20816  
Model launcher for wind tunnels Patent  
[NASA-CASE-XNP-03578] c 11 N71-23030  
Wind tunnel microphone structure Patent  
[NASA-CASE-XNP-00250] c 11 N71-28779  
Wind tunnel  
[NASA-CASE-LAR-10135-1] c 09 N79-21083  
Metric half-span model support system  
[NASA-CASE-LAR-12441-1] c 09 N82-23254  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334

## WIND TUNNEL CALIBRATION

- Rotary target V-block  
[NASA-CASE-LAR-12007-3] c 35 N84-16523

## WIND TUNNEL DRIVES

- Electric arc driven wind tunnel Patent  
[NASA-CASE-XMF-00411] c 11 N70-36913

## WIND TUNNEL MODELS

- Flow field simulation Patent  
[NASA-CASE-LAR-11138] c 12 N71-20436  
Multilegged support system Patent  
[NASA-CASE-XLA-01326] c 11 N71-21481  
Model launcher for wind tunnels Patent  
[NASA-CASE-XNP-03578] c 11 N71-23030  
Wind tunnel model damper Patent  
[NASA-CASE-XLA-09440] c 11 N71-33612  
Wind tunnel model and method  
[NASA-CASE-LAR-10812-1] c 09 N74-17955  
Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c 25 N74-18551  
Metric half-span model support system  
[NASA-CASE-LAR-12441-1] c 09 N82-23254

- Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12458-1] c 44 N83-21503  
Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12720-1] c 44 N83-21504  
Model mount system for testing flutter  
[NASA-CASE-LAR-12950-1] c 09 N84-34448  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334

## WIND TUNNEL NOZZLES

- Multi-purpose wind tunnel reaction control model block  
[NASA-CASE-MSC-19706-1] c 09 N78-31129  
Wind tunnel supplementary Mach number minimum section insert  
[NASA-CASE-LAR-12532-1] c 09 N82-11088

## WIND TUNNEL TESTS

- Metallic hot wire anemometer --- for high speed wind tunnel tests  
[NASA-CASE-ARC-10911-1] c 35 N77-20400  
Multi-purpose wind tunnel reaction control model block  
[NASA-CASE-MSC-19706-1] c 09 N78-31129  
Metric half-span model support system  
[NASA-CASE-LAR-12441-1] c 09 N82-23254  
Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558  
Device for quick changeover between wind tunnel force and pressure testing  
[NASA-CASE-LAR-13512-1] c 35 N87-28884  
Thermal remote anemometer system  
[NASA-CASE-LAR-13508-1] c 35 N88-23962

## WIND TUNNEL WALLS

- Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235

## WIND TUNNELS

- Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c 35 N74-22095  
Wind tunnel flow generation section  
[NASA-CASE-ARC-10710-1] c 09 N75-12969  
Apparatus for reducing aerodynamic noise in a wind tunnel  
[NASA-CASE-MFS-23099-1] c 09 N76-23273  
Static pressure orifice system testing method and apparatus  
[NASA-CASE-LAR-12269-1] c 35 N80-18358

## WIND TURBINES

- Amplified wind turbine apparatus  
[NASA-CASE-MFS-23830-1] c 44 N82-24639  
Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018

## WIND VELOCITY

- Radionuclide counting technique for measuring wind velocity and direction  
[NASA-CASE-LAR-12971-1] c 47 N84-28292  
Aircraft liftmeter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

## WIND VELOCITY MEASUREMENT

- Wind velocity probing device and method Patent  
[NASA-CASE-XLA-02081] c 20 N71-16281  
Aircraft liftmeter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

## WINDING

- Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475  
Pulse coupling circuit  
[NASA-CASE-LEW-10433-1] c 09 N72-22197

## WINDMILLS (WINDPOWERED MACHINES)

- Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280  
Vertical shaft windmill  
[NASA-CASE-LAR-12923-1] c 37 N84-12493  
Coupling an induction motor type generator to ac power lines --- making windmill generators compatible with public power lines  
[NASA-CASE-MFS-25302-2] c 33 N84-33660

## WINDOWS (APERTURES)

- Active microwave irises and windows  
[NASA-CASE-LAR-10513-1] c 07 N72-25170  
Observation window for a gas confining chamber  
[NASA-CASE-NPO-10890] c 11 N73-12265  
Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750  
Double window viewing chamber assembly  
[NASA-CASE-MFS-28057-1] c 09 N87-14355

## WINDPOWER UTILIZATION

- Amplified wind turbine apparatus  
[NASA-CASE-MFS-23830-1] c 44 N82-24639  
Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018

## WINDPOWERED GENERATORS

- Wind wheel electric power generator  
[NASA-CASE-MFS-23515-1] c 44 N80-21828

## WINDSHIELDS

Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280

## WINDSHIELDS

Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c 27 N76-16230

## WING CAMBER

Slotted variable camber flap  
[NASA-CASE-LAR-12541-1] c 05 N84-22551

## WING FLAPS

Jet aircraft configuration Patent  
[NASA-CASE-XLA-00087] c 02 N70-33332

Slotted variable camber flap  
[NASA-CASE-LAR-12541-1] c 05 N84-22551

## WING PROFILES

Variable-span aircraft Patent  
[NASA-CASE-XLA-00166] c 02 N70-34178

Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277

## WING ROOTS

Solar powered aircraft  
[NASA-CASE-LAR-12615-1] c 05 N84-12154

## WING SLOTS

Slotted variable camber flap  
[NASA-CASE-LAR-12541-1] c 05 N84-22551

## WING TIP VORTICES

Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c 02 N77-10001

## WING TIPS

Smoke generator  
[NASA-CASE-ARC-10905-1] c 37 N77-13418

Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194

## WINGS

Ferry system  
[NASA-CASE-LAR-10574-1] c 11 N73-13257

Surface finishing --- for aircraft wings  
[NASA-CASE-MSC-12631-1] c 24 N77-28225

Free wing assembly for an aircraft  
[NASA-CASE-FRC-10092-1] c 05 N79-12061

Detection of the transitional layer between laminar and turbulent flow areas on a wing surface --- using an accelerometer to measure pressure levels during wind tunnel tests

[NASA-CASE-LAR-12261-1] c 02 N80-20224

System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations

[NASA-CASE-FRC-11024-1] c 02 N80-28300

Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279

Decoupler pylon: wing/store flutter suppressor  
[NASA-CASE-LAR-12468-1] c 08 N82-32373

Piezoelectric deicing device  
[NASA-CASE-LEW-13773-2] c 33 N86-20671

Remote pivot decoupler pylon: Wing/store flutter suppressor  
[NASA-CASE-LAR-13173-1] c 05 N87-14314

## WIRE

Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226

Soldering device Patent  
[NASA-CASE-XLA-08911] c 15 N71-27214

Forming tool for ribbon or wire  
[NASA-CASE-XLA-05966] c 15 N72-12408

Method of removing insulated material from insulated wires  
[NASA-CASE-FRC-10038] c 15 N72-20444

Shielded flat cable  
[NASA-CASE-MFS-13687-2] c 09 N72-22198

Butt welder for fine gauge tungsten/rhenium thermocouple wire  
[NASA-CASE-LAR-10103-1] c 15 N73-14468

Method of fabricating a twisted composite superconductor  
[NASA-CASE-LEW-11015] c 26 N73-32571

Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338

Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913

## WIRE BRIDGE CIRCUITS

Cavity radiometer Patent  
[NASA-CASE-XNP-08961] c 14 N71-24809

## WIRE CLOTH

Insulating structure Patent  
[NASA-CASE-XMF-00341] c 15 N70-33323

Method of making screen by casting Patent  
[NASA-CASE-XLE-00953] c 15 N71-15966

## WIRE WINDING

Adjustable tension wire guide Patent  
[NASA-CASE-XMS-02383] c 15 N71-15918

Superconducting alternator Patent  
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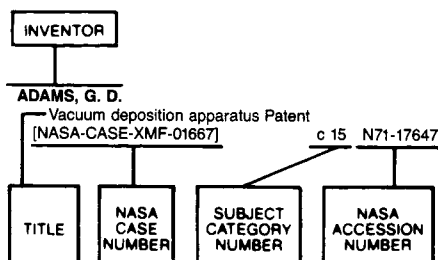
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[NASA-CASE-ERC-10112] c 07 N72-21119

Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c 35 N74-15831

**DATA RECORDING**

System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042

Data compressor Patent  
[NASA-CASE-XNP-04067] c 08 N71-22707

Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710

Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866

On-film optical recording of camera lens settings  
[NASA-CASE-MSC-12363-1] c 14 N73-26431

Image data rate converter having a drum with a fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c 35 N74-11283

Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946

**DATA REDUCTION**

Data compression system  
[NASA-CASE-XNP-09785] c 08 N69-21928

Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202

Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506

Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288

Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435

Data compressor Patent  
[NASA-CASE-XNP-04067] c 08 N71-22707

Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171

Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154

Digital slope threshold data compressor  
[NASA-CASE-NPO-11630] c 08 N72-33172

Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1-CU] c 32 N88-26541

**DATA RETRIEVAL**

Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504

Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c 32 N75-26195

**DATA SAMPLING**

Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026

Signal processing apparatus for multiplex transmission Patent  
[NASA-CASE-NPO-10388] c 07 N71-24622

Television signal processing system Patent  
[NASA-CASE-NPO-10140] c 07 N71-24742

Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171

Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328

CCD correlated quadruple sampling processor  
[NASA-CASE-NPO-14426-1] c 33 N81-27396

**DATA SMOOTHING**

Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964

Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417

**DATA STORAGE**

Data handling system based on source significance, storage availability and data received from the source Patent Application  
[NASA-CASE-XNP-04162-1] c 08 N70-34675

Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504

Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420

Event recorder Patent  
[NASA-CASE-XLA-01832] c 14 N71-21006

System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042

Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710

Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131

Dual purpose momentum wheels for spacecraft with magnetic recording  
[NASA-CASE-NPO-11481] c 21 N73-13644

Data storage, image tube type  
[NASA-CASE-MSC-14053-1] c 60 N74-12888

Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337

**DATA STRUCTURES**

Real-time garbage collection for list processing  
[NASA-CASE-MSC-20964-1] c 60 N87-14863

**DATA SYSTEMS**

Data handling system based on source significance, storage availability and data received from the source Patent Application  
[NASA-CASE-XNP-04162-1] c 08 N70-34675

Rate augmented digital to analog converter Patent  
[NASA-CASE-XLA-07828] c 08 N71-27057

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598

**DATA TRANSFER (COMPUTERS)**

Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255

**DATA TRANSMISSION**

Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333

Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent  
[NASA-CASE-XNP-00911] c 08 N70-41961

Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506

Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288

Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435

Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763

Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026

Frequency shift keying apparatus Patent  
[NASA-CASE-XGS-01537] c 07 N71-23405

Decoder system Patent  
[NASA-CASE-NPO-10118] c 07 N71-24741

Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154

Multichannel telemetry system  
[NASA-CASE-NPO-11572] c 07 N73-16121

Automated attendance accounting system  
[NASA-CASE-NPO-11456] c 08 N73-26176

System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519

Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328

Pseudo noise code and data transmission method and apparatus  
[NASA-CASE-GSC-12017-1] c 32 N77-30308

Multi-channel rotating optical interface for data transmission  
[NASA-CASE-NPO-14066-1] c 74 N79-34011

System for a displaying at a remote station data generated at a central station and for powering the remote station from the central station  
[NASA-CASE-GSC-12411-1] c 33 N81-14221

Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MSC-20258-1] c 60 N84-28492

Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863

Auxiliary data input device  
[NASA-CASE-LAR-13626-1] c 37 N87-25584

A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220

**DAWSONITE**

Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977

**DEBRIS**

Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090

**DECAY RATES**

Solar sensor having coarse and fine sensing with matched preirradiated cells and method of selecting cells Patent  
[NASA-CASE-XLA-01584] c 14 N71-23269

**DECELERATION**

Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410

Discrete local altitude sensing device Patent  
[NASA-CASE-XMS-03792] c 14 N70-41812

Hot air balloon deceleration and recovery system Patent  
[NASA-CASE-XLA-06824-2] c 02 N71-11037

Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c 14 N71-23227

**DECIMALS**

High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176

**DECISION MAKING**

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598

Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946

**DECODERS**

Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650

BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890

Encoder/decoder system for a rapidly synchronizable binary code Patent  
[NASA-CASE-NPO-10342] c 10 N71-33407

Compact-bi-phase pulse coded modulation decoder  
[NASA-CASE-KSC-10834-1] c 33 N76-14371

Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249

Three phase full wave dc motor decoder  
[NASA-CASE-GSC-11824-1] c 33 N77-26386

Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359

Reed-Solomon decoder  
[NASA-CASE-NPO-15982-1] c 60 N87-21591

**DECODING**

Decoder system Patent  
[NASA-CASE-NPO-10118] c 07 N71-24741

Versatile arithmetic unit for high speed sequential decoder  
[NASA-CASE-NPO-11371] c 08 N73-12177

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598

Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c 32 N77-12239

Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946

**DECOMMUTATORS**

Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359

Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491

**DECONTAMINATION**

Decontamination of petroleum products Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499

Helium refrigerator and method for decontaminating the refrigerator  
[NASA-CASE-NPO-10634] c 23 N72-25619

Plasma cleaning device --- designed for high vacuum environments  
[NASA-CASE-MFS-22906-1] c 75 N78-27913

**DEEP SPACE NETWORK**

Low phase noise digital frequency divider  
[NASA-CASE-NPO-11569] c 10 N73-26229

**DEFECTS**

Hybrid holographic non-destructive test system  
[NASA-CASE-MFS-23114-1] c 38 N78-32447

**DEFLECTION**

Biopropellant injector  
[NASA-CASE-XNP-09461] c 28 N72-23809

Noncontacting method for measuring angular deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138

**DEFLECTORS**

Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788

Aircraft wheel spray drag alleviator Patent  
[NASA-CASE-XLA-01583] c 02 N70-36825

Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173

Exhaust flow deflector --- for ducted gas flow  
[NASA-CASE-LAR-11570-1] c 34 N76-18364

Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343

**DEFOCUSING**

Retrodirective modulator Patent  
[NASA-CASE-GSC-10062] c 14 N71-15605

**DEFORMATION**

Arbitrarily shaped model survey system Patent  
[NASA-CASE-LAR-10098] c 32 N71-26681

Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877

Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500

**DEGASSING**

Degassing and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MSC-18936-1] c 35 N83-29652

**DEGREES OF FREEDOM**

Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746

Dynamic vibration absorber Patent  
[NASA-CASE-LAR-10083-1] c 15 N71-27006

Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c 09 N75-15662

**DEHUMIDIFICATION**

Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465

**DEHYDRATED FOOD**

Modification of the physical properties of freeze-dried rice  
[NASA-CASE-MSC-13540-1] c 05 N72-33096

**DEHYDRATION**

Process for developing crystallinity in linear aromatic polyimides  
[NASA-CASE-LAR-13732-1] c 27 N87-25474

**DEICERS**

Piezoelectric deicing device  
[NASA-CASE-LEW-13773-2] c 33 N86-20671

Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833

**DELAMINATING**

Method of inseting predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258

**DELAY CIRCUITS**

Pulsed differential comparator circuit Patent  
[NASA-CASE-XLE-03804] c 10 N71-19471

Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418

Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245

Swept group delay measurement  
[NASA-CASE-NPO-13909-1] c 33 N78-25319

Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179

**DELAY LINES**

A solid state acoustic variable time delay line Patent  
[NASA-CASE-ERC-10032] c 10 N71-25900

**DELTA MODULATION**

Multifunction audio digitizer --- producing direct delta and pulse code modulation  
[NASA-CASE-MSC-13855-1] c 35 N74-17885

**DELTA WINGS**

Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986

**DEMAGNETIZATION**

Tumbler system to provide random motion  
[NASA-CASE-XGS-02437] c 15 N69-21472

**DEMULATION**

Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763

Facsimile video remodulation network  
[NASA-CASE-GSC-10185-1] c 07 N72-12081

Quadrature demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338

Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546

**DEMULATORS**

Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333

Frequency shift keyed demodulator Patent  
[NASA-CASE-XGS-02889] c 07 N71-11282

Bi-carrier demodulator with modulation Patent  
[NASA-CASE-XMF-01160] c 07 N71-11298

Demodulation system Patent  
[NASA-CASE-XAC-04030] c 10 N71-19472

Laser calibrator Patent  
[NASA-CASE-XLA-03410] c 16 N71-25914

Frequency modulation demodulator threshold extension device Patent  
[NASA-CASE-MSC-12165-1] c 07 N71-33696

Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c 33 N74-14939

Unbalanced quadriphase demodulator  
[NASA-CASE-MSC-14840-1] c 32 N77-24331

Digital demodulator-correlator  
[NASA-CASE-NPO-13982-1] c 32 N79-14267

Self-calibrating threshold detector  
[NASA-CASE-MSC-16370-1] c 35 N81-19427

Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570

**DENDRITIC CRYSTALS**

Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888

**DENSIFICATION**

Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18737-1] c 24 N83-13171

**DENSITOMETERS**

Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c 14 N70-36618

Densitometer Patent  
[NASA-CASE-XLE-00688] c 14 N70-41330

Ultrasonic bone densitometer  
[NASA-CASE-MFS-20994-1] c 35 N75-12271

**DENSITY (MASS/VOLUME)**

Non toxic inert analog glass compositions of high modulus  
[NASA-CASE-HQN-10328-2] c 27 N82-29454

Method and apparatus for minimizing convection during crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968

**DENSITY DISTRIBUTION**

Apparatus for increasing ion engine beam density Patent  
[NASA-CASE-XLE-00519] c 28 N70-41576

Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c 74 N76-20958

**DENSITY MEASUREMENT**

Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c 14 N70-36618

Densitometer Patent  
[NASA-CASE-XLE-00688] c 14 N70-41330

Determining particle density using known material Hugoniot curves  
[NASA-CASE-LAR-11059-1] c 76 N75-12810

Selective image area control of X-ray film exposure density  
[NASA-CASE-NPO-13808-1] c 35 N78-15461

Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681

Device for determining frost depth and density  
[NASA-CASE-MFS-25754-1] c 35 N84-28018

**DENTISTRY**

Process for the preparation of brushite crystals  
[NASA-CASE-ERC-10338] c 04 N72-33072

Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862

**DEOXYGENATION**

Electrocatalyst for oxygen reduction  
[NASA-CASE-HQN-10537-1] c 06 N72-10138

**DEPLOYMENT**

Minimech self-deploying boom mechanism  
[NASA-CASE-GSC-10566-1] c 15 N72-18477

Deployable solar cell array  
[NASA-CASE-NPO-10883] c 31 N72-22874

Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183

High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272

Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479

Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605

Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791

Payload deployment method and system  
[NASA-CASE-MSC-21330-1] c 16 N88-24660

**DEPOSITION**

Means and methods of depositing thin films on substrates Patent  
[NASA-CASE-XNP-00595] c 15 N70-34967

Monitoring deposition of films  
[NASA-CASE-MFS-20675] c 26 N73-26751

Production of pure metals  
[NASA-CASE-LEW-10906-1] c 25 N74-30502

Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695

Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153

Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826

Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

**DEPOSITS**

Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

**DEPTH**

Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N88-23924

**DEPTH MEASUREMENT**

Device for determining frost depth and density  
[NASA-CASE-MFS-25754-1] c 35 N84-28018

Mining volume measurement system  
[NASA-CASE-LAR-13519-1] c 35 N88-23963

Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

**DESCENT**

Emergency descent device  
[NASA-CASE-MFS-23074-1] c 54 N77-21844

**DESIGN ANALYSIS**

Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAW-1 airfoil  
[NASA-CASE-LAR-10585-1] c 02 N76-22154

Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717

**DESTRUCTIVE TESTS**

Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12458-1] c 44 N83-21503

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Coal-rock interface detector  
[NASA-CASE-MFS-23725-1] c 43 N79-31706
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Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982
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Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
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[NASA-CASE-XMS-03722] c 15 N71-21530
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Lightning tracking system  
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Lightning current measuring systems  
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Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588
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[NASA-CASE-XAC-03777] c 10 N71-15909  
Stereoscopic television system and apparatus  
[NASA-CASE-ARC-10160-1] c 23 N72-27728
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[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159  
Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223  
Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-23917  
Cryogenic regenerator including saran-carbon heat conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946
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Flow field simulation Patent  
[NASA-CASE-LAR-11138] c 12 N71-20436  
Method for determining thermo-physical properties of specimens  
[NASA-CASE-LAR-11053-1] c 25 N74-18551  
Apparatus for determining thermophysical properties of test specimens  
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Swirl can primary combustor  
[NASA-CASE-LEW-11326-1] c 23 N73-30665
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Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c 34 N74-27730
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Capillary flow weld-bonding  
[NASA-CASE-LAR-11726-1] c 37 N76-27568
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[NASA-CASE-XMS-04935] c 05 N71-11190
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[NASA-CASE-ARC-10470-1] c 02 N73-26005  
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[NASA-CASE-KSC-11004-1] c 54 N77-30749
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## SEIDEL, B. L.

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## SEIDENBERG, B.

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[NASA-CASE-GSC-10903-1] c 14 N73-12444

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[NASA-CASE-GSC-11358-1] c 06 N73-26100

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[NASA-CASE-GSC-13019-1] c 34 N88-29133

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[NASA-CASE-XMF-01030] c 18 N70-41583

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[NASA-CASE-MFS-14253] c 33 N71-24858

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[NASA-CASE-NPO-13810-1] c 44 N77-32582

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[NASA-CASE-KSC-11064-1] c 31 N81-14137

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[NASA-CASE-LEW-11325-1] c 06 N73-27980

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[NASA-CASE-LEW-13226-1] c 27 N81-17260

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[NASA-CASE-LEW-12933-1] c 27 N81-19296

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[NASA-CASE-LEW-12876-2] c 27 N83-29392

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## SHADY, D. L.

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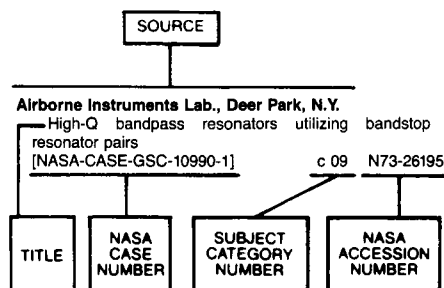
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**Chrysler Corp., Huntsville, AL.**  
Apparatus for ejection of an instrument cover  
[NASA-CASE-XMF-04132] c 15 N69-27502

**Collins Radio Co., Cedar Rapids, IA.**  
Power responsive overload sensing circuit  
Patent  
[NASA-CASE-GSC-10667-1] c 10 N71-33129  
Chassis unit insert tightening-extract device  
[NASA-CASE-XMS-01077-1] c 37 N79-33467

**Collins Radio Co., Dallas, TX.**  
Signal path series step biased multidevice high efficiency amplifier  
Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430

## E

- Heat conductive resiliently compressible structure for space electronics package modules Patent  
[NASA-CASE-MSC-12389] c 33 N71-29052
- Infinite range electronics gain control circuit  
[NASA-CASE-GSC-10786-1] c 10 N72-28241
- Colorado State Univ., Fort Collins.**  
Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148
- Comprehensive Designers, Inc., Sherman Oaks, CA.**  
Vehicle for use in planetary exploration  
[NASA-CASE-NPO-11366] c 11 N73-26238
- Computer Control Co., Inc., Framingham, MA.**  
Test fixture for pellet-like electrical elements  
[NASA-CASE-XNP-06032] c 09 N69-21926
- Support structure for irradiated elements Patent  
[NASA-CASE-XNP-06031] c 15 N71-15606
- Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137
- Computer Sciences Corp., Falls Church, VA.**  
Oceanic wave measurement system  
[NASA-CASE-MFS-23862-1] c 48 N80-18667
- Computer Sciences Corp., Greenbelt, MD.**  
Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279
- Computer Sciences Corp., Mountain View, CA.**  
Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288
- Conrac Corp., Pasadena, CA.**  
Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MSC-12280] c 27 N71-16348
- Consolidated Controls Corp., El Segundo, CA.**  
Low temperature latching solenoid  
[NASA-CASE-MSC-18106-1] c 33 N82-11357
- Cornell Univ., Ithaca, NY.**  
Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon Patent  
[NASA-CASE-XGS-01881] c 09 N70-40123
- Crane Co., Burbank, CA.**  
Hydraulic transformer Patent  
[NASA-CASE-MFS-20830] c 15 N71-30028
- Curtiss-Wright Corp., Wood-Ridge, NJ.**  
Gas turbine combustion apparatus Patent  
[NASA-CASE-XLE-103477-1] c 28 N71-20330
- Cutler-Hammer, Inc., Melville, NY.**  
Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346

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- Delaware Univ., Newark.**  
High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c 35 N74-18088
- Denver Univ., CO.**  
Metal shearing energy absorber  
[NASA-CASE-HQN-10638-1] c 15 N73-30460
- Department of Transportation, Cambridge, MA.**  
Optical noise suppression device and method  
[NASA-CASE-MSC-12640-1] c 74 N76-31998
- Dorne and Margolin, Inc., Bohemia, NY.**  
Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984
- Douglas Aircraft Co., Inc., Santa Monica, CA.**  
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- Switching circuit employing regeneratively connected complementary transistors Patent  
[NASA-CASE-XNP-02654] c 10 N70-42032
- Split nut separation system Patent  
[NASA-CASE-XNP-06914] c 15 N71-21489
- Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c 31 N71-21881
- Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721
- Energy absorption device Patent  
[NASA-CASE-XNP-01848] c 15 N71-28959
- Collapsible pistons  
[NASA-CASE-MSC-13789-1] c 11 N73-32152
- Duke Univ., Durham, NC.**  
Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c 33 N74-11049
- Dumont Electron Tubes, Clifton, NJ.**  
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[NASA-CASE-ERC-10468] c 09 N72-20206
- Dynatherm Corp., Cockeysville, MD.**  
Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307

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- Echo Science Corp., Mountain View, CA.**  
Dynamic capacitor having a peripherally driven element and system incorporating the same  
[NASA-CASE-XNP-02899-1] c 33 N79-21265
- Eitel-McCullough, Inc., San Carlos, CA.**  
Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312
- Electrac, Inc., Anaheim, CA.**  
Optimum predetection diversity receiving system Patent  
[NASA-CASE-XGS-00740] c 07 N71-23098
- Electric Storage Battery Co., Raleigh, NC.**  
Electric battery and method for operating same Patent  
[NASA-CASE-XGS-01674] c 03 N71-29129
- Storage battery comprising negative plates of a wedge shaped configuration  
[NASA-CASE-NPO-11806-1] c 44 N74-19693
- Electric Storage Battery Co., Yardley, PA.**  
Electric storage battery  
[NASA-CASE-NPO-11021] c 03 N72-20032
- Electro-Optical Systems, Inc., Pasadena, CA.**  
Focussing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618
- Electrolytically regenerative hydrogen-oxygen fuel cell Patent  
[NASA-CASE-XLE-04526] c 03 N71-11052
- Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468
- Soil particles separator, collector and viewer Patent  
[NASA-CASE-XNP-09770] c 15 N71-20440
- Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c 14 N71-22990
- Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271
- Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293
- Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036
- Screen particle separator  
[NASA-CASE-XNP-09770-2] c 15 N72-22483
- Electronic Image Systems Corp., Cambridge, MA.**  
Drying apparatus for photographic sheet material  
[NASA-CASE-GSC-11074-1] c 14 N73-28489
- Essex Corp., Huntsville, AL.**  
Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303
- Ewen Knight Corp., East Natck, MA.**  
Method and means for providing an absolute power measurement capability Patent  
[NASA-CASE-EHC-11020] c 14 N71-26774
- Fairchild Hiller Corp., Germantown, MD.**  
Two axis fluxgate magnetometer Patent  
[NASA-CASE-GSC-10441-1] c 14 N71-27325
- Space simulation and radiative property testing system and method Patent  
[NASA-CASE-MFS-20096] c 14 N71-30026
- Thermal control system for a spacecraft modular housing  
[NASA-CASE-GSC-11018-1] c 31 N73-30829
- Fairchild Republic Co., Farmingdale, NY.**  
Surface conforming thermal/pressure seal  
[NASA-CASE-MSC-18422-1] c 37 N82-16408
- Faraday Labs, Inc., La Jolla, CA.**  
Method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MFS-23405-1] c 26 N77-29260
- Federal-Mogul Corp., Los Alamitos, CA.**  
Hydraulic casting of liquid polymers Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975
- Florida Univ., Gainesville.**  
Safety flywheel  
[NASA-CASE-HQN-10888-1] c 44 N79-14527
- FMC Corp., New York.**  
Decomposition unit Patent  
[NASA-CASE-XMS-00583] c 28 N70-38504
- Foothill Coll., Los Altos Hills, CA.**  
Electrical conductivity cell and method for fabricating the same  
[NASA-CASE-ARC-10810-1] c 33 N76-19339
- Ford Motor Co., Dearborn, MI.**  
Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c 14 N71-30265

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- Garrett Corp., Los Angeles, CA.**  
Relief valve  
[NASA-CASE-XMS-05894-1] c 15 N69-21924
- Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203
- Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191
- Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c 03 N71-24718
- Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877
- Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium with palladium black  
[NASA-CASE-MSC-13335-1] c 06 N72-31140
- Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546
- Gas compression apparatus  
[NASA-CASE-MSC-14757-1] c 35 N78-10428
- Wind tunnel  
[NASA-CASE-LAR-10135-1] c 09 N79-21083
- Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345
- Garrett Corp., Torrance, CA.**  
Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953
- GCA Corp., Bedford, MA.**  
Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c 06 N71-13461
- General Dynamics/Astronautics, San Diego, CA.**  
Determination of spot weld quality Patent  
[NASA-CASE-XNP-02588] c 15 N71-18613
- Pressure transducer calibrator Patent  
[NASA-CASE-XNP-01660] c 14 N71-23036
- Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c 17 N71-24830
- General Dynamics/Convair, San Diego, CA.**  
Signal generator  
[NASA-CASE-XNP-05612] c 09 N69-21468
- Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922
- Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968
- Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c 25 N74-12813
- Heat exchanger  
[NASA-CASE-MFS-22991-1] c 34 N77-10463
- General Dynamics Corp., San Diego, CA.**  
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[NASA-CASE-XNP-03930] c 14 N69-24331
- Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-XFR-07658-1] c 05 N71-26293
- Driving lamps by induction  
[NASA-CASE-MFS-21214-1] c 09 N73-30181
- General Electric Co., Cincinnati, OH.**  
Dual output variable pitch turbofan actuation system  
[NASA-CASE-LEW-12419-1] c 07 N77-14025
- Reverse pitch fan with divided splitter  
[NASA-CASE-LEW-12760-1] c 07 N77-17059
- Leading edge protection for composite blades  
[NASA-CASE-LEW-12550-1] c 24 N77-19170
- Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12830-1] c 07 N77-23106
- Blade retainer assembly  
[NASA-CASE-LEW-12608-1] c 07 N77-27116
- Platform for a swing root turbomachinery blade  
[NASA-CASE-LEW-12312-1] c 07 N77-32148
- Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500
- Bearing seat usable in a gas turbine engine  
[NASA-CASE-LEW-12477-1] c 37 N77-32501
- Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12321-1] c 37 N78-10467
- Impact absorbing blade mounts for variable pitch blades  
[NASA-CASE-LEW-12313-1] c 37 N78-10468
- Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055
- Gas turbine engine with convertible accessories  
[NASA-CASE-LEW-12390-1] c 07 N78-17056
- Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384
- Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089
- Redundant disc  
[NASA-CASE-LEW-12496-1] c 07 N78-33101

## H

Fuel delivery system including heat exchanger means  
[NASA-CASE-LEW-12793-1] c 37 N79-11403

Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-3] c 07 N79-14096

Variable area exhaust nozzle  
[NASA-CASE-LEW-12378-1] c 07 N79-14097

Sound-suppressing structure with thermal relief  
[NASA-CASE-LEW-12658-1] c 71 N79-14871

Method and apparatus for rapid thrust increases in a turbofan engine  
[NASA-CASE-LEW-12971-1] c 07 N80-18039

Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999

Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115

Integrated control system for a gas turbine engine  
[NASA-CASE-LEW-12594-2] c 07 N81-19116

Thrust reverser for a long duct fan engine  
[NASA-CASE-LEW-13199-1] c 07 N82-26293

Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603

Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029

Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560

Air modulation apparatus  
[NASA-CASE-LEW-13524-1] c 07 N84-33410

Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195

Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

**General Electric Co., Cleveland, OH.**  
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[NASA-CASE-LEW-12917-1] c 07 N78-18067

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[NASA-CASE-XHQ-03903] c 15 N69-21922

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[NASA-CASE-XGS-03505] c 03 N71-10608

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[NASA-CASE-XGS-02011] c 15 N71-20739

Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
[NASA-CASE-MSC-13917-1] c 05 N72-15098

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[NASA-CASE-MSC-13609-1] c 05 N72-25122

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[NASA-CASE-MSC-13604-1] c 05 N73-13114

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[NASA-CASE-LAR-10076-1] c 05 N73-20137

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[NASA-CASE-MFS-21441-1] c 14 N73-30392

Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c 35 N74-18090

Electrophoretic sample insertion  
[NASA-CASE-MFS-21395-1] c 25 N74-26948

Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c 34 N74-27744

Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c 54 N75-27759

Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804

Solar cell module  
[NASA-CASE-NPO-14467-1] c 44 N79-31753

Voltage feed through apparatus having reduced partial discharge  
[NASA-CASE-GSC-12347-1] c 33 N80-18286

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[NASA-CASE-LEW-10219-1] c 18 N71-28729

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Superconductive accelerometer Patent  
[NASA-CASE-XMF-01099] c 14 N71-15969

Remote manipulator system  
[NASA-CASE-MFS-22022-1] c 37 N76-15460

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[NASA-CASE-GSC-12075-1] c 32 N77-31350

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[NASA-CASE-LEW-12906-1] c 26 N77-32279

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Method of determining bond quality of power transistors attached to substrates  
[NASA-CASE-MFS-21931-1] c 37 N75-26372

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[NASA-CASE-MSC-10959] c 15 N71-26243

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[NASA-CASE-XMS-02383] c 15 N71-15918

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[NASA-CASE-XLA-09371] c 10 N71-18724

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[NASA-CASE-NPO-10199] c 09 N72-17156

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Fluidic-thermochromic display device Patent  
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[NASA-CASE-LAR-13098-1] c 31 N86-19479

**General Technologies Corp., Reston, VA.**  
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[NASA-CASE-LEW-12619-1] c 24 N77-19171

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[NASA-CASE-XGS-03351] c 31 N71-16081

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[NASA-CASE-XGS-01293-1] c 35 N79-33450

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[NASA-CASE-XGS-01593] c 03 N70-35408

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[NASA-CASE-GSC-11533-1] c 14 N73-13435

Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c 52 N74-27566

**Giannini Scientific Corp., Santa Ana, CA.**  
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[NASA-CASE-ARC-10266-1] c 33 N75-29318

Combination automatic-starting electrical plasma torch and gas shutoff valve  
[NASA-CASE-XLE-10717] c 37 N75-29426

**Giner, Inc., Waltham, MA.**  
Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-1] c 33 N80-20487

Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524

**Globe-Union, Inc., Milwaukee, WI.**  
Method of coating solar cell with borosilicate glass and resultant product  
[NASA-CASE-GSC-11514-1] c 03 N72-24037

**Goodyear Aerospace Corp., Akron, OH.**  
Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c 03 N70-41580

Method of making a filament-wound container Patent  
[NASA-CASE-XLE-03803-2] c 15 N71-17651

Filament wound container Patent  
[NASA-CASE-XLE-03803] c 15 N71-23816

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[NASA-CASE-MFS-14023] c 33 N71-25351

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[NASA-CASE-LAR-10373-1] c 18 N71-26155

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[NASA-CASE-LAR-10440-1] c 14 N73-32323

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[NASA-CASE-HQN-10364] c 06 N71-27363

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[NASA-CASE-MSC-20812-1] c 34 N86-27593

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[NASA-CASE-MSC-12168-1] c 09 N71-18600

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[NASA-CASE-XMS-10984-1] c 10 N71-19417

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[NASA-CASE-NPO-10251] c 10 N71-27365

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[NASA-CASE-MSC-13110-1] c 08 N72-22163

**Hamilton Standard, Windsor Locks, CT.**  
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[NASA-CASE-XMS-09652-1] c 05 N71-26333

Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment  
[NASA-CASE-MSC-14771-1] c 54 N77-32722

Cell and method for electrolysis of water and anode  
[NASA-CASE-MSC-16394-1] c 28 N81-24280

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[NASA-CASE-MSC-20112-1] c 37 N85-20338

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[NASA-CASE-MSC-14143-1] c 77 N75-20139

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[NASA-CASE-LAR-12196-1] c 33 N81-26358

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[NASA-CASE-XMF-02108] c 31 N70-36845

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[NASA-CASE-XMF-08522] c 15 N71-19486

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Method and apparatus for cryogenic wire stripping Patent  
[NASA-CASE-MFS-10340] c 15 N71-17628

Self-balancing strain gage transducer Patent  
[NASA-CASE-MFS-12827] c 14 N71-17656

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[NASA-CASE-MFS-13046] c 07 N71-19433

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Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487

Light detection instrument Patent  
[NASA-CASE-XGS-05534] c 23 N71-16355

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[NASA-CASE-XGS-05532] c 06 N71-17705

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[NASA-CASE-ARC-11538-1SB] c 24 N86-21590

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Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c 24 N74-30001

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**Honeywell, Inc., Minneapolis, MN.**  
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[NASA-CASE-XMS-04215-1] c 09 N69-39987

Apparatus for overcurrent protection of a push-pull amplifier Patent  
[NASA-CASE-MSC-12033-1] c 09 N71-13531

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[NASA-CASE-XGS-05289] c 09 N71-19470

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[NASA-CASE-XMS-08589-1] c 09 N71-20569

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[NASA-CASE-XMS-02184] c 15 N71-20813

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[NASA-CASE-XNP-05429] c 26 N71-21824

Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255

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[NASA-CASE-XNP-05297] c 15 N71-23811

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[NASA-CASE-GSC-10114-1] c 10 N71-27366

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[NASA-CASE-GSC-10656-1] c 09 N72-25249

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[NASA-CASE-NPO-11686] c 14 N73-25462

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[NASA-CASE-XNP-09808] c 09 N71-12518  
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[NASA-CASE-XMF-04238] c 09 N69-39734  
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[NASA-CASE-XNP-09785] c 08 N69-21928  
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- Prepolymer dianhydrides  
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[NASA-CASE-MSC-14331-3] c 27 N78-32262

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**Liton Systems, Inc., Minneapolis, MN.**

Apparatus for sampling particulates in gases  
[NASA-CASE-HQN-10037-1] c 14 N73-27376

**Lockheed Aircraft Corp., Burbank, CA.**

Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679

**Lockheed-California Co., Burbank.**

Absorptive splitter for closely spaced supersonic engine air inlets Patent  
[NASA-CASE-XLA-02865] c 28 N71-15563  
Multistage aerospace craft  
[NASA-CASE-XMF-02263] c 05 N74-10907

**Lockheed Electronics Co., Houston, TX.**

Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300  
Burst synchronization detection system Patent  
[NASA-CASE-XMS-05605-1] c 10 N71-19468  
Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244

Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MSC-13492-1] c 10 N71-28860

Ultrastable calibrated light source  
[NASA-CASE-MSC-12293-1] c 14 N72-27411  
Data storage, image tube type  
[NASA-CASE-MSC-14053-1] c 60 N74-12888

Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c 32 N74-26654  
Differential phase shift keyed signal resolver  
[NASA-CASE-MSC-14066-1] c 33 N74-27705

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598  
Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c 33 N74-32711

Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c 33 N75-18479  
Random pulse generator  
[NASA-CASE-MSC-14131-1] c 33 N75-19515

Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c 32 N75-21486  
Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249

System for producing chroma signals  
[NASA-CASE-MSC-14683-1] c 74 N77-18893  
Phased array antenna control  
[NASA-CASE-MSC-14939-1] c 32 N79-11264

Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313  
Multiple band circularly polarized microstrip antenna  
[NASA-CASE-MSC-18334-1] c 32 N80-32604

Multispectral scanner optical system  
[NASA-CASE-MSC-18255-1] c 74 N80-33210  
Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583

**Lockheed Engineering and Management Services Co., Inc., Las Cruces, NM.**

Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MSC-20622-1] c 25 N86-19413

**Lockheed Missiles and Space Co., Huntsville, AL.**

Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749

**Lockheed Missiles and Space Co., Sunnyvale, CA.**

Device for handling heavy loads  
[NASA-CASE-XNP-04969] c 11 N69-27466  
Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641

Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725  
Apparatus for detecting the amount of material in a resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397

Emergency earth orbital escape device  
[NASA-CASE-MSC-13281] c 31 N72-18859  
Solar energy powered heliotrope  
[NASA-CASE-GSC-10945-1] c 21 N72-31637

Coaxial inverted geometry transistor having buried emitter  
[NASA-CASE-ARC-10330-1] c 09 N73-32112  
Whole body measurement systems  
[NASA-CASE-MSC-13972-1] c 52 N74-10975

Four phase logic systems  
[NASA-CASE-MSC-14240-1] c 33 N75-14957  
Strain arrestor plate for fused silica tile  
[NASA-CASE-MSC-14182-1] c 27 N76-14264

Medical subject monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757  
Two-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c 27 N76-22377

Optical alignment device  
[NASA-CASE-ARC-10932-1] c 74 N76-22993  
Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c 27 N76-23426

Process of forming catalytic surfaces for wet oxidation reactions  
[NASA-CASE-MSC-14831-1] c 25 N78-10225  
Partial polarizer filter  
[NASA-CASE-GSC-12225-1] c 74 N79-14891

Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550

**Lockheed Propulsion Co., Redlands, CA.**

Propellant grain for rocket motors Patent  
[NASA-CASE-XGS-03556] c 27 N70-35534

**LTV Aerospace Corp., Dallas, TX.**

Method of fluxless brazing and diffusion bonding of aluminum containing components  
[NASA-CASE-MSC-14435-1] c 37 N76-18455

**LTV Aerospace Corp., Hampton, VA.**

Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992

**M****Macon-Rust Co., Lexington, KY.**

Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159

**Marlin-Rockwell Corp., Jamestown, NY.**

Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c 37 N75-31446

**Marquardt Corp., Van Nuys, CA.**

Fuel injection pump for internal combustion engines Patent  
[NASA-CASE-MSC-12139-1] c 28 N71-14058  
Multislot film cooled pyrolytic graphite rocket nozzle Patent  
[NASA-CASE-XNP-04389] c 28 N71-20942

Tube sealing device Patent  
[NASA-CASE-NPO-10431] c 15 N71-29132

**Martin Marietta Aerospace, Denver, CO.**

Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c 35 N76-18400  
Pulse transducer with artifact signal attenuator  
[NASA-CASE-FRC-11012-1] c 52 N80-23969

Urine collection apparatus  
[NASA-CASE-MSC-18381-1] c 52 N81-28740

**Martin Marietta Corp., Baltimore, MD.**

Landing gear Patent  
[NASA-CASE-XMF-01174] c 02 N70-41589  
Emergency escape system Patent  
[NASA-CASE-XKS-02342] c 05 N71-11199

**Martin Marietta Corp., Denver, CO.**

Flexible/rigidifiable cable assembly  
[NASA-CASE-MSC-13512-1] c 15 N72-22485  
Derivation of a tangent function using an integrated circuit four-quadrant multiplier  
[NASA-CASE-MSC-13907-1] c 10 N73-26230

Low distortion automatic phase control circuit  
[NASA-CASE-MFS-21671-1] c 33 N74-22885  
Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c 18 N75-27041

Filter regeneration systems  
[NASA-CASE-MSC-14273-1] c 34 N75-33342  
Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c 33 N76-14372

Method and apparatus for fluffing, separating, and cleaning fibers  
[NASA-CASE-LAR-11224-1] c 37 N76-18456  
Hearing aid malfunction detection system  
[NASA-CASE-MSC-14916-1] c 33 N78-10375

Positive isolation disconnect  
[NASA-CASE-MSC-16043-1] c 37 N79-11402  
Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711

Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670

**Maryland Univ., College Park.**

Method and apparatus for optical modulating a light signal Patent  
[NASA-CASE-GSC-10216-1] c 23 N71-26722

**Massachusetts Inst. of Tech., Cambridge.**

Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471  
Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658

Electronic amplifier with power supply switching Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798

Method and apparatus for stabilizing a gaseous optical maser Patent  
[NASA-CASE-XGS-03644] c 16 N71-18614  
Power supply Patent  
[NASA-CASE-XMS-02159] c 10 N71-22961

Optical frequency waveguide Patent  
[NASA-CASE-HQN-10541-1] c 07 N71-26291  
Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135

Optical frequency waveguide and transmission system Patent  
[NASA-CASE-HQN-10541-4] c 16 N71-27183  
Compact spectroradiometer  
[NASA-CASE-HQN-10683] c 14 N71-34389

Optical frequency waveguide and transmission system  
[NASA-CASE-HQN-10541-3] c 23 N72-23695  
Display research collision warning system  
[NASA-CASE-HQN-10703] c 21 N73-13643

Transparent switchboard  
[NASA-CASE-MSC-13746-1] c 10 N73-32143  
Vapor deposition apparatus  
[NASA-CASE-HQN-10462] c 25 N75-29192

Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c 35 N75-30504

**MB Associates, San Ramon, CA.**

Hypervelocity gun  
[NASA-CASE-XLE-03186-1] c 09 N79-21084

**McDonnell Aircraft Co., Saint Louis, MO.**

Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322  
Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459

Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089  
Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543

Multiple circuit protector device  
[NASA-CASE-XMS-02744] c 33 N75-27249  
Apparatus for welding sheet material  
[NASA-CASE-XMS-01330] c 37 N75-27376

Fused switch  
[NASA-CASE-XMS-01244-1] c 33 N79-33393  
Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114

**McDonnell-Douglas Astronautics Co., Huntington Beach, CA.**  
Heat transfer device  
[NASA-CASE-MFS-22938-1] c 34 N76-18374

**McDonnell-Douglas Astronautics Co., Santa Monica, CA.**  
New polymers of perfluorobutadiene and method of manufacture Patent application  
[NASA-CASE-NPO-10863] c 06 N70-11251

Method of polymerizing perfluorobutadiene Patent application  
[NASA-CASE-NPO-10447] c 06 N70-11252

**McDonnell-Douglas Astronautics Co., Saint Louis, MO.**  
Passive propellant system  
[NASA-CASE-MFS-23642-2] c 20 N78-27176

**McDonnell-Douglas Corp., Huntington Beach, CA.**  
Variable direction force coupler  
[NASA-CASE-MFS-20317] c 15 N73-13463

Potable water dispenser  
[NASA-CASE-MFS-21115-1] c 54 N74-12779  
Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MFS-21163-1] c 54 N74-17853

Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136  
Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945

Thrust-isolating mounting  
[NASA-CASE-MFS-21680-1] c 18 N74-27397  
Device for measuring tensile forces  
[NASA-CASE-MFS-21728-1] c 35 N74-27865

Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410  
Phase-locked servo system  
[NASA-CASE-MFS-22073-1] c 33 N75-13139

Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612  
Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615

Latching device  
[NASA-CASE-MFS-21606-1] c 37 N75-19685  
Device for use in loading tension members  
[NASA-CASE-MFS-21488-1] c 14 N75-24794

**McDonnell-Douglas Corp., Long Beach, CA.**

Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630

**McDonnell-Douglas Corp., Newport Beach, CA.**

Method of making membranes  
[NASA-CASE-XNP-04264] c 03 N69-21337

**McDonnell-Douglas Corp., Santa Monica, CA.**

Rocket nozzle test method Patent  
[NASA-CASE-NPO-10311] c 31 N71-15643  
Reaction of fluorine with polyperfluoropolyenes  
[NASA-CASE-NPO-10862] c 06 N72-22107  
Polymers of perfluorobutadiene and method of manufacture  
[NASA-CASE-NPO-10863-2] c 06 N72-25152  
Electrolytic cell structure  
[NASA-CASE-LAR-11042-1] c 33 N75-27252  
Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions  
[NASA-CASE-NPO-12122-1] c 24 N76-14203  
Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c 27 N76-16228

**McDonnell-Douglas Corp., Saint Louis, MO.**

Thermally conductive polymers  
[NASA-CASE-GSC-11304-1] c 06 N72-21105  
Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278

**Medical Sciences Research Foundation, San Francisco, CA.**

Reduction of blood serum cholesterol  
[NASA-CASE-NPO-12119-1] c 52 N75-15270

**Mellon Inst., Pittsburgh, PA.**

Instrument for measuring torsional creep and recovery Patent  
[NASA-CASE-XLE-01481] c 14 N71-10781

**Melpar, Inc., Falls Church, VA.**

Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c 09 N71-19449  
Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086

**Metcom, Inc., Salem, MA.**

Tuning arrangement for an electron discharge device or the like Patent  
[NASA-CASE-XNP-09771] c 09 N71-24841

**Methodist Hospital, Houston, TX.**

Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717

**Microwave Electronics Corp., Palo Alto, CA.**

Folded traveling wave maser structure Patent  
[NASA-CASE-XNP-05219] c 16 N71-15550  
Superconducting magnet Patent  
[NASA-CASE-XNP-06503] c 23 N71-29049

**Microwave Research Corp., North Andover, MA.**

Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365  
Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278

**Midwest Research Inst., Kansas City, MO.**

Preparation of ordered poly /arylenesiloxane/ polymers  
[NASA-CASE-XMF-10753] c 06 N71-11237  
Inorganic solid film lubricants Patent  
[NASA-CASE-XMF-03988] c 15 N71-21403  
Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098

**Milliken (D. B.) Co., Arcadia, CA.**

Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935

**Minneapolis-Honeywell Regulator Co., MN.**

Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783

**Modern Machine and Tool Co., Newport News, VA.**

Means for accommodating large overstrain in lead wires  
[NASA-CASE-LAR-10168-1] c 33 N74-22865

**Monsanto Co., Saint Louis, MO.**

Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910

**Monsanto Research Corp., Dayton, OH.**

Perfluoro alkylene dioxy-bis(4-phthalic anhydrides and oxy-bis(perfluoroalkyleneoxyphthalic anhydrides)  
[NASA-CASE-MFS-22356-1] c 23 N75-30256  
Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355-1] c 23 N76-15268

**Motorola, Inc., Phoenix, AZ.**

Automatic frequency discriminators and control for a phase-lock loop providing frequency preset capabilities Patent  
[NASA-CASE-XMF-08665] c 10 N71-19467  
Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229

Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654  
Method and apparatus for quadrupole-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192  
PN lock indicator for dithered PN code tracking loop  
[NASA-CASE-NPO-14435-1] c 33 N81-33405

**Motorola, Inc., Scottsdale, AZ.**

Sealed cabinet Patent  
[NASA-CASE-MSC-12168-1] c 09 N71-18600  
Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692  
Phase modulator Patent  
[NASA-CASE-MSC-13201-1] c 07 N71-28429  
Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c 33 N74-32712  
Quadrupole demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338  
Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539

**N****National Academy of Sciences - National Research Council, Washington, DC.**

Gyrator employing field effect transistors  
[NASA-CASE-MFS-21433] c 09 N73-20232  
Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004  
Optical data processing using paraboloidal mirror segments  
[NASA-CASE-GSC-11296-1] c 23 N73-30666  
Power supply for carbon dioxide lasers  
[NASA-CASE-GSC-11222-1] c 16 N73-32391  
High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c 35 N74-18088  
Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946  
Stagnation pressure probe  
[NASA-CASE-LAR-11139-1] c 35 N74-32878  
Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638  
Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086  
Method of preparing water purification membranes  
[NASA-CASE-ARC-10643-1] c 25 N75-12087  
Method of forming aperture plate for electron microscope  
[NASA-CASE-ARC-10448-2] c 74 N75-12732  
Dually mode locked Nd:YAG laser  
[NASA-CASE-GSC-11746-1] c 36 N75-19654  
Anti-gravity device  
[NASA-CASE-MFS-22758-1] c 70 N75-26789  
Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331  
Integrable power gyrator  
[NASA-CASE-MFS-22342-1] c 33 N75-30428  
Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MFS-22287-1] c 75 N76-14931  
Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c 35 N76-15433  
Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c 35 N76-16393  
Self-energized plasma compressor  
[NASA-CASE-MFS-22145-2] c 75 N76-17951  
Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525  
Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408  
Method for making a hot wire anemometer and product thereof  
[NASA-CASE-ARC-10900-1] c 35 N77-24454  
Length controlled stabilized mode-lock Nd:YAG laser  
[NASA-CASE-GSC-11571-1] c 36 N77-25499  
Method of growing composites of the type exhibiting the Soret effect  
[NASA-CASE-MFS-22926-1] c 24 N77-27187  
Method and apparatus for splitting a beam of energy  
[NASA-CASE-GSC-12083-1] c 73 N78-32848  
Cantilever mounted resilient pad gas bearing  
[NASA-CASE-LEW-12569-1] c 37 N79-10418  
Shock isolator for operating a diode laser on a closed-cycle refrigerator  
[NASA-CASE-GSC-12297-1] c 37 N79-28549  
Pocket ECG electrode  
[NASA-CASE-ARC-11258-1] c 52 N80-33081  
Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612  
Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348  
Autonomous navigation system  
[NASA-CASE-ARC-11257-1] c 04 N81-21047

Phosphorus-containing bisimide resins  
[NASA-CASE-ARC-11321-1] c 27 N81-27272  
Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174  
Nical ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505  
Massively parallel processor computer  
[NASA-CASE-GSC-12223-1] c 60 N83-25378  
Non-invasive method and apparatus for measuring pressure within a pliable vessel  
[NASA-CASE-ARC-11264-2] c 52 N83-29991  
Elastomer-modified phosphorus-containing imide resins  
[NASA-CASE-ARC-11400-1] c 27 N84-14322  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745  
Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361  
Synthesis of 2,4,8,10-tetroxaspiro[5.5]undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187  
Fire-resistant phosphorus containing polyimides and copolyimides  
[NASA-CASE-ARC-11522-2] c 27 N85-34280  
Metal (2) 4,4',4'' phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281  
Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380  
Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455

**National Aeronautics and Space Administration, Washington, DC.**

Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485  
Waveguide mixer  
[NASA-CASE-ERC-10179] c 07 N72-20141  
Semiconductor-ferroelectric memory device  
[NASA-CASE-ERC-10307] c 08 N72-21198  
Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701  
Fabrication of single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c 09 N72-22199  
Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409  
Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428  
Optical pump and driver system for lasers  
[NASA-CASE-ERC-10283] c 16 N72-25485  
Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437  
Head-up attitude display  
[NASA-CASE-ERC-10392] c 21 N73-14692  
System for indicating direction of intruder aircraft  
[NASA-CASE-ERC-10226-1] c 14 N73-16483  
Aircraft control system  
[NASA-CASE-ERC-10439] c 02 N73-19004  
Display system  
[NASA-CASE-ERC-10350] c 14 N73-20474  
Method and apparatus for measuring solar activity and atmospheric radiation effects  
[NASA-CASE-ERC-10276] c 14 N73-26432  
Doppler shift system  
[NASA-CASE-HQN-10740-1] c 72 N74-19310  
Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014  
Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c 36 N75-19653  
Physical correction filter for improving the optical quality of an image  
[NASA-CASE-HQN-10542-1] c 74 N75-25706  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040  
Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251  
Vapor deposition apparatus  
[NASA-CASE-HQN-10462] c 25 N75-29192  
Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c 33 N76-27473  
Rechargeable battery which combats shape change of the zinc anode  
[NASA-CASE-HQN-10862-1] c 44 N76-29699  
System and method for tracking a signal source  
[NASA-CASE-HQN-10880-1] c 17 N78-17140  
Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920  
Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721  
Safety flywheel  
[NASA-CASE-HQN-10888-1] c 44 N79-14527

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Ultrasonic biomedical measuring and recording apparatus	c 52	N74-20726	Optical alignment device	c 74	N76-22993	Automatic fluid dispenser	c 35	N78-19466
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Wind tunnel flow generation section	c 09	N75-12969	The engine air intake system	c 07	N77-18154	Microelectrophoretic apparatus and process	c 25	N79-14169
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Reversed cow flap inlet thrust augmentor	c 07	N75-24736	All sky pointing attitude control system	c 35	N77-20399	Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers	c 27	N79-18052
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Diode-quad bridge circuit means	c 33	N75-25041	Metallic hot wire anemometer	c 35	N77-20400	Miniature implantable ultrasonic echosonometer	c 52	N79-18580
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Rotary plant growth accelerating apparatus	c 51	N75-25503	Optical instrument employing reticle having preselected visual response pattern formed thereon	c 74	N77-22950	Preparation of heterocyclic block copolymer omega-diamidoximes	c 27	N79-22300
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Reference apparatus for medical ultrasonic transducer	c 54	N75-27760	Pseudo-backscatter laser Doppler velocimeter employing antiparallel-reflector in the forward direction	c 36	N77-25501	Fire protection covering for small diameter missiles	c 15	N79-26100
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G-load measuring and indicator apparatus	c 35	N75-29381	Twin-capacitive shaft angle encoder with analog output signal	c 33	N77-31404	Controller arm for a remotely related slave arm	c 37	N79-28551
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Diatomic infrared gasdynamic laser	c 36	N75-31426	Mechanical energy storage device for hip disarticulation	c 52	N78-10686	Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides	c 25	N80-16116
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Pneumatic load compensating or controlling system	c 37	N75-32465	Optically selective, acoustically resonant gas detecting transducer	c 35	N78-13400	Cryogenic container compound suspension strap	c 37	N80-18393
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Combined dual scatter, local oscillator laser Doppler velocimeter	c 36	N76-14447	Intumescent coatings containing 4,4'-dinitrosulfanilide	c 24	N78-14096	Induction powered biological radiosonde	c 52	N80-18691
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Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector	c 74	N76-20958	Multi-chamber controllable heat pipe	c 34	N78-17337	Pocket ECG electrode	c 52	N80-33081
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Nulling device for detection of trace gases by NDIR absorption	c 25	N76-22323	Full color hybrid display for aircraft simulators	c 09	N78-18083			
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**National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Center, Edwards, CA.**

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Electrical servo actuator bracket  
[NASA-CASE-FRC-11044-1] c 37 N81-33483

System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075

Multiple pure tone elimination strut assembly  
[NASA-CASE-FRC-11062-1] c 71 N82-16800

Apparatus for damping operator induced oscillations of a controlled system  
[NASA-CASE-FRC-11041-1] c 33 N82-18493

Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494

Sun sensing guidance system for high altitude aircraft  
[NASA-CASE-FRC-11052-1] c 04 N82-23231

Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

Smoother filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417

Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839

Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277

Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288

Aircraft canopy lock  
[NASA-CASE-FRC-11065-1] c 05 N83-19737

Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975

Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

**National Aeronautics and Space Administration. John F. Kennedy Space Center, Cocoa Beach, FL.**

Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785

Quick attach and release fluid coupling assembly  
[NASA-CASE-XKS-01985] c 15 N71-10782

Parasitic probe antenna Patent  
[NASA-CASE-XKS-09348] c 09 N71-13521

Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566

Apparatus for tensile testing Patent  
[NASA-CASE-XKS-06250] c 14 N71-15600

Weatherproof helix antenna Patent  
[NASA-CASE-XKS-08485] c 07 N71-19493

Valve seat with resilient support member Patent  
[NASA-CASE-XKS-02582] c 15 N71-21234

Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796

Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175

Separation simulator Patent  
[NASA-CASE-XKS-04631] c 10 N71-23663

Controlled release device Patent  
[NASA-CASE-XKS-03338] c 15 N71-24043

Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606

VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614

BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890

Flammability test chamber Patent  
[NASA-CASE-XKS-10126] c 11 N71-24985

Video sync processor Patent  
[NASA-CASE-XKS-10002] c 10 N71-25865

Weld preparation machine Patent  
[NASA-CASE-XKS-07953] c 15 N71-26134

Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292

Internal work light Patent  
[NASA-CASE-XKS-05932] c 09 N71-26787

Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067

Voltage dropout sensor Patent  
[NASA-CASE-XKS-10020] c 10 N71-27338

Aut ignition test cell Patent  
[NASA-CASE-XKS-10198] c 11 N71-28629

Protective suit having an audio transceiver Patent  
[NASA-CASE-XKS-10164] c 07 N71-33108

Ripple indicator  
[NASA-CASE-XKS-10162] c 09 N72-11225

High speed photo-optical time recording  
[NASA-CASE-XKS-10294] c 14 N72-18411

High speed direct binary-to-binary coded decimal converter  
[NASA-CASE-XKS-10326] c 08 N72-21197

Automatic frequency control loop including synchronous switching circuits  
[NASA-CASE-XKS-10393] c 09 N72-21247

Zero gravity shadow shield aligner  
[NASA-CASE-XKS-10622-1] c 31 N72-21893

Universal environment package with sectional component housing  
[NASA-CASE-XKS-10031] c 15 N72-22486

Buffered analog converter  
[NASA-CASE-XKS-10397] c 08 N72-25206

Lamp modulator  
[NASA-CASE-XKS-10565] c 09 N72-25250

Cable stabilizer for open shaft cable operated elevators  
[NASA-CASE-XKS-10513] c 15 N72-25453

Pressurized lighting system  
[NASA-CASE-XKS-10644] c 09 N72-27227

High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-XKS-10595] c 08 N73-12176

Geysering inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-XKS-10615] c 15 N73-12486

Electronic video editor  
[NASA-CASE-XKS-10003] c 10 N73-13235

Collapsible high gain antenna  
[NASA-CASE-XKS-10392] c 07 N73-26117

Floating baffle to improve efficiency of liquid transfer from tanks  
[NASA-CASE-XKS-10639] c 15 N73-26472

Zero gravity liquid transfer screen  
[NASA-CASE-XKS-10626] c 14 N73-27378

Television multiplexing system  
[NASA-CASE-XKS-10654-1] c 07 N73-30115

Lightning tracking system  
[NASA-CASE-XKS-10729-1] c 09 N73-32110

Rocket borne instrument to measure electric fields inside electrified clouds  
[NASA-CASE-XKS-10730-1] c 14 N73-32318

Electric field measuring and display system  
[NASA-CASE-XKS-10731-1] c 33 N74-27862

Digital servo controller  
[NASA-CASE-XKS-10769-1] c 33 N74-29556

Signal conditioner test set  
[NASA-CASE-XKS-10750-1] c 35 N75-12270

Variable resistance constant tension and lubrication device  
[NASA-CASE-XKS-10723-1] c 37 N75-13265

Voltage monitoring system  
[NASA-CASE-XKS-10736-1] c 33 N75-19521

Lightning current measuring systems  
[NASA-CASE-XKS-10807-1] c 33 N75-26246

Dual digital video switcher  
[NASA-CASE-XKS-10782-1] c 33 N75-30431

Compact bi-phase pulse coded modulation decoder  
[NASA-CASE-XKS-10834-1] c 33 N76-14371

Percutaneous connector device  
[NASA-CASE-XKS-10849-1] c 52 N77-14738

Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-XKS-11030-1] c 52 N77-25772

Rotational joint assembly for the prosthetic leg  
[NASA-CASE-XKS-11004-1] c 54 N77-30749

Fiber optic multiplex optical transmission system  
[NASA-CASE-XKS-11047-1] c 74 N78-14889

Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-XKS-11035-1] c 35 N78-28411

Ocean thermal plant  
[NASA-CASE-XKS-11034-1] c 44 N78-32542

Lightning current waveform measuring system  
[NASA-CASE-XKS-11018-1] c 33 N79-10337

Remote lightning monitor system  
[NASA-CASE-XKS-11031-1] c 33 N79-11315

Illumination control apparatus for compensating solar light  
[NASA-CASE-XKS-11010-1] c 74 N79-12890

Lightning current detector  
[NASA-CASE-XKS-11057-1] c 33 N79-14305

Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-XKS-10899-1] c 33 N79-18193

Digital automatic gain amplifier  
[NASA-CASE-XKS-11008-1] c 33 N79-22373

Telephone multiline signaling using common signal pair  
[NASA-CASE-XKS-11023-1] c 32 N79-23310

Prosthesis coupling  
[NASA-CASE-XKS-11069-1] c 52 N79-26772

Fire extinguishing apparatus having a slidable mass for a penetrator nozzle  
[NASA-CASE-XKS-11064-1] c 31 N81-14137

System for sterilizing objects  
[NASA-CASE-XKS-11085-1] c 54 N81-24724

Common data buffer system  
[NASA-CASE-XKS-11048-1] c 62 N81-24779

System and method for refurbishing and processing parachutes  
[NASA-CASE-XKS-11042-2] c 02 N81-26073

Decommutator patchboard verifier  
[NASA-CASE-XKS-11065-1] c 33 N81-26359

Automatic flowmeter calibration system  
[NASA-CASE-XKS-11076-1] c 34 N81-26402

Lightning discharge identification system  
[NASA-CASE-XKS-11099-1] c 47 N82-24779

Method for refurbishing and processing parachutes  
[NASA-CASE-XKS-11042-1] c 09 N82-29330

Method for repair of thin glass coatings  
[NASA-CASE-XKS-11097-1] c 27 N82-33520

Serial data correlator/code translator  
[NASA-CASE-XKS-11025-1] c 32 N83-13323

Fiber optic crossbar switch for automatically patching optical signals  
[NASA-CASE-XKS-11104-1] c 74 N83-29032

Automatic level control circuit  
[NASA-CASE-XKS-11170-1] c 33 N83-36356

Inflight IFR procedures simulator  
[NASA-CASE-XKS-11218-1] c 09 N85-19990

Video processor for air traffic control beacon system  
[NASA-CASE-XKS-11155-1] c 04 N86-19304

Liquid hydrogen polygeneration system and process  
[NASA-CASE-XKS-11304-2] c 28 N86-23744

Method and apparatus for operating on compacted PCM voice data  
[NASA-CASE-XKS-11285-1] c 32 N86-27513

Personnel emergency carrier vehicle  
[NASA-CASE-XKS-11282-1] c 85 N87-21755

Multi-adjustable headband  
[NASA-CASE-XKS-11322-1] c 54 N87-25765

Quick-disconnect inflatable seal assembly  
[NASA-CASE-XKS-11368-1] c 37 N89-13786

**National Aeronautics and Space Administration.**

**Lyndon B. Johnson Space Center, Houston, TX.**

Coupling device  
[NASA-CASE-XMS-07846-1] c 09 N69-21927

Flow test device  
[NASA-CASE-XMS-04917] c 14 N69-24257

Visual target for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c 31 N69-27499

System for monitoring signal amplitude ranges  
[NASA-CASE-XMS-04061-1] c 09 N69-39885

Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986

System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-XMS-12259-1] c 07 N70-12616

Two-step rocket engine bipropellant valve Patent  
[NASA-CASE-XMS-04890-1] c 15 N70-22192

Heat shield Patent  
[NASA-CASE-XMS-00486] c 33 N70-33344

Life raft Patent  
[NASA-CASE-XMS-00863] c 05 N70-34857

Shock absorbing support and restraint means Patent  
[NASA-CASE-XMS-01240] c 05 N70-35152

Energy absorbing structure Patent Application  
[NASA-CASE-XMS-12279-1] c 15 N70-35679

Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400



Life preserver Patent  
[NASA-CASE-XMS-00864] c 05 N70-36493

Resuscitation apparatus Patent  
[NASA-CASE-XMS-01115] c 05 N70-39922

Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063

Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233

Liquid-gas separator for zero gravity environment Patent  
[NASA-CASE-XMS-01492] c 05 N70-41297

Instrument for use in performing a controlled Valsalva maneuver Patent  
[NASA-CASE-XMS-01615] c 05 N70-41329

Radial module space station Patent  
[NASA-CASE-XMS-01906] c 31 N70-41373

Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c 31 N70-41631

Angular accelerometer Patent  
[NASA-CASE-XMS-05936] c 14 N70-41682

Indexed keyed connection Patent  
[NASA-CASE-XMS-02532] c 15 N70-41808

Discrete local altitude sensing device Patent  
[NASA-CASE-XMS-03792] c 14 N70-41812

Cryogenic storage system Patent  
[NASA-CASE-XMS-04390] c 31 N70-41871

Mass measuring system Patent  
[NASA-CASE-XMS-03371] c 05 N70-42000

Line cutter Patent  
[NASA-CASE-XMS-04072] c 15 N70-42017

Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075

Voltage-current characteristic simulator Patent  
[NASA-CASE-XMS-01554] c 10 N71-10578

Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746

Gravity stabilized flying vehicle Patent  
[NASA-CASE-MSC-12111-1] c 02 N71-11039

Helmet assembly and latch means therefor Patent  
[NASA-CASE-XMS-04935] c 05 N71-11190

Pressure suit tie-down mechanism Patent  
[NASA-CASE-XMS-00784] c 05 N71-12335

Hand-held self-manuevering unit Patent  
[NASA-CASE-XMS-05304] c 05 N71-12336

Pressure garment joint Patent  
[NASA-CASE-XMS-09636] c 05 N71-12344

Emergency escape system Patent  
[NASA-CASE-MSC-12086-1] c 05 N71-12345

Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391

Electrical load protection device Patent  
[NASA-CASE-MSC-12135-1] c 09 N71-12526

High voltage pulse generator Patent  
[NASA-CASE-MSC-12178-1] c 09 N71-13518

Process for conditioning tanned sharkskin and articles made therefrom Patent  
[NASA-CASE-XMS-09691-1] c 18 N71-15545

Ablation structures Patent  
[NASA-CASE-XMS-01816] c 33 N71-15623

Fluid power transmission Patent  
[NASA-CASE-XMS-01445] c 12 N71-16031

Spacecraft radiator cover Patent  
[NASA-CASE-MSC-12049] c 31 N71-16080

Method of improving heat transfer characteristics in a nucleate boiling process Patent  
[NASA-CASE-XMS-04268] c 33 N71-16277

Heated element fluid flow sensor Patent  
[NASA-CASE-MSC-12084-1] c 12 N71-17569

Biological isolation garment Patent  
[NASA-CASE-MSC-12206-1] c 05 N71-17599

Metal valve pintle with encapsulated elastomeric body Patent  
[NASA-CASE-MSC-12116-1] c 15 N71-17648

Method for forming plastic materials Patent  
[NASA-CASE-XMS-05516] c 15 N71-17803

Flexible blade antenna Patent  
[NASA-CASE-MSC-12101] c 09 N71-18720

Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439

Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479

Solar optical telescope dome control system Patent  
[NASA-CASE-MSC-10966] c 14 N71-19568

Subgravity simulator Patent  
[NASA-CASE-XMS-04798] c 11 N71-21474

Shock absorber Patent  
[NASA-CASE-XMS-03722] c 15 N71-21530

Apparatus for machining geometric cones Patent  
[NASA-CASE-XMS-04292] c 15 N71-22722

Rescue litter flotation assembly Patent  
[NASA-CASE-XMS-04170] c 05 N71-22748

Aligning and positioning device Patent  
[NASA-CASE-XMS-04178] c 15 N71-22798

Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878

Amplitude modulated laser transmitter Patent  
[NASA-CASE-XMS-04269] c 16 N71-22895

Digital cardiometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896

Phonocardiograph transducer Patent  
[NASA-CASE-XMS-05365] c 14 N71-22993

Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent  
[NASA-CASE-XMS-02930] c 11 N71-23042

Soft frame adjustable eyeglasses Patent  
[NASA-CASE-XMS-06064] c 05 N71-23096

Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317

Signal ratio system utilizing voltage controlled oscillators Patent  
[NASA-CASE-XMF-04367] c 09 N71-23545

Winch having cable position and load indicators Patent  
[NASA-CASE-MSC-12052-1] c 15 N71-24599

Radar antenna system for acquisition and tracking Patent  
[NASA-CASE-XMS-09610] c 07 N71-24625

Extravehicular tunnel suit system Patent  
[NASA-CASE-MSC-12243-1] c 05 N71-24728

Broadband modified turnstile antenna Patent  
[NASA-CASE-MSC-12209] c 09 N71-24842

Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975

Plated electrodes Patent  
[NASA-CASE-XMS-04213-1] c 09 N71-26002

Audio signal processor Patent  
[NASA-CASE-MSC-12223-1] c 07 N71-26181

Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MSC-12109] c 18 N71-26285

Antenna array phase quadrature tracking system Patent  
[NASA-CASE-MSC-12205-1] c 07 N71-27056

Radiometric temperature reference Patent  
[NASA-CASE-MSC-13276-1] c 14 N71-27058

Pneumatic amplifier Patent  
[NASA-CASE-MSC-12121-1] c 15 N71-27147

Orbital escape device Patent  
[NASA-CASE-XMS-06162] c 31 N71-28851

Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936

Ion-exchange membrane with platinum electrode assembly Patent  
[NASA-CASE-XMS-02063] c 03 N71-29044

Color television system  
[NASA-CASE-MSC-12146-1] c 07 N72-17109

Current dependent filter inductance  
[NASA-CASE-ERC-10139] c 09 N72-17154

Low onset rate energy absorber  
[NASA-CASE-MSC-12279] c 15 N72-17450

Stand-off type ablative heat shield  
[NASA-CASE-MSC-12143-1] c 33 N72-17947

Optical range finder having nonoverlapping complete images  
[NASA-CASE-MSC-12105-1] c 14 N72-21409

Open type urine receptacle  
[NASA-CASE-MSC-12324-1] c 05 N72-22093

Family of frequency to amplitude converters  
[NASA-CASE-MSC-12395] c 09 N72-25257

Foldable construction block  
[NASA-CASE-MSC-12233-1] c 15 N72-25454

Method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c 15 N72-25457

Scientific experiment flexible mount  
[NASA-CASE-MSC-12372-1] c 31 N72-25842

Burn rate testing apparatus  
[NASA-CASE-XMS-09690] c 33 N72-25913

System for improving signal-to-noise ratio of a communication signal  
[NASA-CASE-MSC-12259-2] c 07 N72-33146

Altitude measuring system  
[NASA-CASE-ERC-10412-1] c 09 N73-12211

A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth  
[NASA-CASE-MSC-12391] c 30 N73-12884

Multispectral imaging system  
[NASA-CASE-MSC-12404-1] c 23 N73-13661

Foldable construction block  
[NASA-CASE-MSC-12233-2] c 32 N73-13921

Space shuttle vehicle and system  
[NASA-CASE-MSC-12433] c 31 N73-14854

Apparatus for statistical time-series analysis of electrical signals  
[NASA-CASE-MSC-12428-1] c 10 N73-25240

Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c 02 N73-26006

On-film optical recording of camera lens settings  
[NASA-CASE-MSC-12363-1] c 14 N73-26431

Powerplexer  
[NASA-CASE-MSC-12396-1] c 03 N73-31988

Foot pedal operated fluid type exercising device  
[NASA-CASE-MSC-11561-1] c 05 N73-32014

Digital to analog conversion apparatus  
[NASA-CASE-MSC-12458-1] c 08 N73-32081

Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c 08 N74-10942

Method for obtaining oxygen from lunar or similar soil  
[NASA-CASE-MSC-12408-1] c 46 N74-13011

Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c 62 N74-14920

Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c 33 N74-14956

Optical instruments  
[NASA-CASE-MSC-14096-1] c 74 N74-15095

Multifunction audio digitizer  
[NASA-CASE-MSC-13855-1] c 35 N74-17885

Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c 24 N74-19769

Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12462-1] c 32 N74-20809

Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12494-1] c 32 N74-20810

Apparatus and method for processing Korotkov sounds  
[NASA-CASE-MSC-13999-1] c 52 N74-26626

Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c 32 N74-26654

Technique for recovery of voice data from heat damaged magnetic tape  
[NASA-CASE-MSC-14219-1] c 32 N74-27612

Differential phase shift keyed signal resolver  
[NASA-CASE-MSC-14066-1] c 33 N74-27705

Specific wavelength colorimeter  
[NASA-CASE-MSC-14081-1] c 35 N74-27860

Latch mechanism  
[NASA-CASE-MSC-12549-1] c 37 N74-27903

Digital communication system  
[NASA-CASE-MSC-13912-1] c 32 N74-30524

Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598

Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c 33 N74-32711

Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c 35 N74-32879

Anti-fog composition  
[NASA-CASE-MSC-13530-2] c 23 N75-14834

Four phase logic systems  
[NASA-CASE-MSC-14240-1] c 33 N75-14957

Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c 33 N75-18479

Random pulse generator  
[NASA-CASE-MSC-14131-1] c 33 N75-19515

Grain refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c 37 N75-19683

Condensate removal device for heat exchanger  
[NASA-CASE-MSC-14143-1] c 77 N75-20139

Television noise reduction device  
[NASA-CASE-MSC-12607-1] c 32 N75-21485

Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c 32 N75-21486

Insulated electrocardiographic electrodes  
[NASA-CASE-MSC-14339-1] c 05 N75-24716

Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c 18 N75-27041

Multiple circuit protector device  
[NASA-CASE-XMS-02744] c 33 N75-27249

Apparatus for welding sheet material  
[NASA-CASE-XMS-01330] c 37 N75-27376

Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c 54 N75-27759

Thrust measurement  
[NASA-CASE-XMS-05731] c 35 N75-29382

Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c 35 N75-30504

Filter regeneration systems  
[NASA-CASE-MSC-14273-1] c 34 N75-33342

Spacecraft docking and alignment system  
[NASA-CASE-MSC-12559-1] c 18 N76-14186

Reconstituted asbestos matrix  
[NASA-CASE-MSC-12568-1] c 24 N76-14204

Strain arrestor plate for fused silica tile  
[NASA-CASE-MSC-14182-1] c 27 N76-14264

Medical subject monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757

Automatic bio waste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804

Method for manufacturing mirrors in zero gravity environment				Installing fiber insulation			
[NASA-CASE-MSC-12611-1]	c 12	N76-15189		[NASA-CASE-MSC-16973-1]	c 37	N81-14317	
Cosmic dust analyzer				Pseudonoise code tracking loop			
[NASA-CASE-MSC-13802-2]	c 35	N76-15431		[NASA-CASE-MSC-18035-1]	c 32	N81-15179	
Low distortion receiver for bi-level baseband PCM waveforms				Thermal barrier pressure seal			
[NASA-CASE-MSC-14557-1]	c 32	N76-16249		[NASA-CASE-MSC-18134-1]	c 37	N81-15363	
Frequency measurement by coincidence detection with standard frequency				Digital numerically controlled oscillator			
[NASA-CASE-MSC-14649-1]	c 33	N76-16331		[NASA-CASE-MSC-16747-1]	c 33	N81-17349	
Space vehicle system				Self-calibrating threshold detector			
[NASA-CASE-MSC-12561-1]	c 18	N76-17185		[NASA-CASE-MSC-16370-1]	c 35	N81-19427	
Method of fluxless brazing and diffusion bonding of aluminum containing components				Cell and method for electrolysis of water and anode			
[NASA-CASE-MSC-14435-1]	c 37	N76-18455		[NASA-CASE-MSC-16394-1]	c 28	N81-24280	
Auger attachment method for insulation				Urine collection device			
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- Therapeutic hand exerciser  
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- Magnetic heading reference  
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- Binocular device for displaying numerical information in field of view  
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- Amplifying ribbon extensometer  
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Method of making fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-00231] c 17 N70-38198

Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c 28 N70-38199

Reinforced metallic composites Patent  
[NASA-CASE-XLE-00228] c 17 N70-38490

Rocket motor system Patent  
[NASA-CASE-XLE-00323] c 28 N70-38505

Particle beam measurement apparatus using beam kinetic energy to change the heat sensitive resistance of the detection probe Patent  
[NASA-CASE-XLE-00243] c 14 N70-38602

Penshape exhaust nozzle for supersonic engine Patent  
[NASA-CASE-XLE-00057] c 28 N70-38711

Multistage multiple-reentry turbine Patent			Nickel-base alloy containing Mo-W-Al-Cr-Ta-Zr-C-Nb-B Patent			Self-lubricating fluoride metal composite materials Patent		
[NASA-CASE-XLE-00085]	c 28	N70-39895	[NASA-CASE-XLE-02082]	c 17	N71-16026	[NASA-CASE-XLE-08511]	c 18	N71-23710
Gas lubricant compositions Patent			Method of improving the reliability of a rolling element system Patent			Alloys for bearings Patent		
[NASA-CASE-XLE-00353]	c 18	N70-39897	[NASA-CASE-XLE-02999]	c 15	N71-16052	[NASA-CASE-XLE-05033]	c 15	N71-23810
Telescoping-spike supersonic inlet for aircraft engines Patent			Process of casting heavy slips Patent			Extrusion die for refractory metals Patent		
[NASA-CASE-XLE-00005]	c 28	N70-39899	[NASA-CASE-XLE-00106]	c 15	N71-16076	[NASA-CASE-XLE-06773]	c 15	N71-23817
High temperature spark plug Patent			Boiler for generating high quality vapor Patent			Combustion chamber Patent		
[NASA-CASE-XLE-00660]	c 28	N70-39925	[NASA-CASE-XLE-00785]	c 33	N71-16104	[NASA-CASE-XLE-04857]	c 28	N71-23968
Low viscosity magnetic fluid obtained by the colloidal suspension of magnetic particles Patent			Method of making self lubricating fluoride-metal composite materials Patent			Metallic film diffusion for boundary lubrication Patent		
[NASA-CASE-XLE-01512]	c 12	N70-40124	[NASA-CASE-XLE-08511-2]	c 18	N71-16105	[NASA-CASE-XLE-10337]	c 15	N71-24046
Apparatus for absorbing and measuring power Patent			Thrust and direction control apparatus Patent			Process for producing dispersion strengthened nickel with aluminum Patent		
[NASA-CASE-XLE-00720]	c 14	N70-40201	[NASA-CASE-XLE-03583]	c 31	N71-17629	[NASA-CASE-XLE-06969]	c 17	N71-24142
Device for directionally controlling electromagnetic radiation Patent			Linear magnetic brake with two windings Patent			Thermal radiation shielding Patent		
[NASA-CASE-XLE-01716]	c 09	N70-40234	[NASA-CASE-XLE-05079]	c 15	N71-17652	[NASA-CASE-XLE-03432]	c 33	N71-24145
Method for continuous variation of propellant flow and thrust in propulsive devices Patent			Method of lubricating rolling element bearings Patent			Method of attaching a cover glass to a silicon solar cell Patent		
[NASA-CASE-XLE-00177]	c 28	N70-40367	[NASA-CASE-XLE-09527]	c 15	N71-17688	[NASA-CASE-XLE-08569-2]	c 03	N71-24681
Apparatus for increasing ion engine beam density Patent			Hot wire liquid level detector for cryogenic fluids Patent			Rocket engine injector Patent		
[NASA-CASE-XLE-00519]	c 28	N70-41576	[NASA-CASE-XLE-00454]	c 23	N71-17802	[NASA-CASE-XLE-03157]	c 28	N71-24736
Foldable conduit Patent			Pulsed differential comparator circuit Patent			Multialarm summary alarm Patent		
[NASA-CASE-XLE-00620]	c 32	N70-41579	[NASA-CASE-XLE-03804]	c 10	N71-19471	[NASA-CASE-XLE-03061-1]	c 10	N71-24798
Liquid storage tank venting device for zero gravity environment Patent			Roll seal Patent			Apparatus for making curved reflectors Patent		
[NASA-CASE-XLE-01449]	c 15	N70-41646	[NASA-CASE-XLE-05130-2]	c 15	N71-19570	[NASA-CASE-XLE-08917-2]	c 15	N71-24836
Method of making a regeneratively cooled combustion chamber Patent			Generator for a space power system Patent			Flow angle sensor and read out system Patent		
[NASA-CASE-XLE-00150]	c 28	N70-41818	[NASA-CASE-XLE-04250]	c 09	N71-20446	[NASA-CASE-XLE-04503]	c 14	N71-24864
Instrument for the quantitative measurement of radiation at multiple wave lengths Patent			Method of making electrical contact on silicon solar cell and resultant product Patent			Shock tube powder dispersing apparatus Patent		
[NASA-CASE-XLE-00011]	c 14	N70-41946	[NASA-CASE-XLE-04787]	c 03	N71-20492	[NASA-CASE-XLE-04946]	c 17	N71-24911
Small rocket engine Patent			Small plasma probe Patent			Pneumatic oscillator Patent		
[NASA-CASE-XLE-00685]	c 28	N70-41992	[NASA-CASE-XLE-02578]	c 25	N71-20747	[NASA-CASE-XLE-10345-1]	c 10	N71-25899
Apparatus for positioning and loading a test specimen Patent			Combined electrolysis device and fuel cell and method of operation Patent			Heat activated cell with alkali anode and alkali salt electrolyte Patent		
[NASA-CASE-XLE-01300]	c 15	N70-41993	[NASA-CASE-XLE-01645]	c 03	N71-20904	[NASA-CASE-XLE-11358]	c 03	N71-26084
Liquid flow sight assembly Patent			Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent			Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent		
[NASA-CASE-XLE-02998]	c 14	N70-42074	[NASA-CASE-XLE-00787]	c 14	N71-21090	[NASA-CASE-XLE-03940]	c 18	N71-26153
Inductive liquid level detection system Patent			Control of transverse instability in rocket combustors Patent			Ion beam deflector Patent		
[NASA-CASE-XLE-01609]	c 14	N71-10500	[NASA-CASE-XLE-04603]	c 33	N71-21507	[NASA-CASE-XLE-10689-1]	c 28	N71-26173
Method of forming thin window drifted silicon charged particle detector Patent			High voltage divider system Patent			Rolling element bearings Patent		
[NASA-CASE-XLE-00808]	c 24	N71-10560	[NASA-CASE-XLE-02008]	c 09	N71-21583	[NASA-CASE-XLE-09527-2]	c 15	N71-26189
Electrostatic thruster with improved insulators Patent			Plasma device feed system Patent			Ion thruster accelerator system Patent		
[NASA-CASE-XLE-01902]	c 28	N71-10574	[NASA-CASE-XLE-02902]	c 25	N71-21694	[NASA-CASE-XLE-10106-1]	c 28	N71-26642
Thin-walled pressure vessel Patent			Burning rate control of solid propellants Patent			Propellant feed isolator Patent		
[NASA-CASE-XLE-04677]	c 15	N71-10577	[NASA-CASE-XLE-03494]	c 27	N71-21819	[NASA-CASE-XLE-10210-1]	c 28	N71-26781
Method of making a silicon semiconductor device Patent			Protective device for machine and metalworking tools Patent			Heat activated cell Patent		
[NASA-CASE-XLE-02792]	c 26	N71-10607	[NASA-CASE-XLE-01092]	c 15	N71-22797	[NASA-CASE-XLE-11359]	c 03	N71-28579
Metallic film diffusion for boundary lubrication Patent			Cryogenic insulation system Patent			Process for glass coating an ion accelerator grid Patent		
[NASA-CASE-XLE-01765]	c 18	N71-10772	[NASA-CASE-XLE-04222]	c 23	N71-22881	[NASA-CASE-XLE-10278-1]	c 15	N71-28582
Molecular beam velocity selector Patent			Method for producing fiber reinforced metallic composites Patent			Fluid jet amplifier Patent		
[NASA-CASE-XLE-01533]	c 11	N71-10777	[NASA-CASE-XLE-03925]	c 18	N71-22894	[NASA-CASE-XLE-09341]	c 12	N71-28741
Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent			Thermal shock apparatus Patent			Gas core nuclear reactor Patent		
[NASA-CASE-XLE-01246]	c 14	N71-10797	[NASA-CASE-XLE-02024]	c 14	N71-22964	[NASA-CASE-XLE-10250-1]	c 22	N71-28759
Capacitor and method of making same Patent			Arc electrode of graphite with ball tip Patent			Gas turbine combustor Patent		
[NASA-CASE-XLE-10364-1]	c 09	N71-13522	[NASA-CASE-XLE-04788]	c 09	N71-22987	[NASA-CASE-XLE-10286-1]	c 28	N71-28915
Capillary radiator Patent			Gas purged dry box glove Patent			Cyclic switch Patent		
[NASA-CASE-XLE-03307]	c 33	N71-14035	[NASA-CASE-XLE-02531]	c 05	N71-23080	[NASA-CASE-XLE-10155-1]	c 09	N71-29035
Electrostatic ion engine having a permanent magnetic circuit Patent			Automatic recording McLeod gauge Patent			Temperature reducing coating for metals subject to flame exposure Patent		
[NASA-CASE-XLE-01124]	c 28	N71-14043	[NASA-CASE-XLE-03280]	c 14	N71-23093	[NASA-CASE-XLE-00035]	c 33	N71-29151
Split welding chamber Patent			Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent			Liquid spray cooling method Patent		
[NASA-CASE-XLE-11531]	c 15	N71-14932	[NASA-CASE-XLE-04501]	c 09	N71-23190	[NASA-CASE-XLE-00027]	c 33	N71-29152
Method and apparatus for making curved reflectors Patent			High temperature ferromagnetic cobalt-base alloy Patent			Turbo-machine blade vibration damper Patent		
[NASA-CASE-XLE-08917]	c 15	N71-15597	[NASA-CASE-XLE-03629]	c 17	N71-23248	[NASA-CASE-XLE-00155]	c 28	N71-29154
Method of making a diffusion bonded refractory coating Patent			Induction furnace with perforated tungsten foil shielding Patent			Corrosion resistant beryllium Patent		
[NASA-CASE-XLE-01604-2]	c 15	N71-15610	[NASA-CASE-XLE-04026]	c 14	N71-23267	[NASA-CASE-XLE-10327]	c 17	N71-33408
Black-body furnace Patent			Gd or Sm doped silicon semiconductor composition Patent			Integrated thermoelectric generator/space antenna combination		
[NASA-CASE-XLE-01399]	c 33	N71-15625	[NASA-CASE-XLE-10715]	c 26	N71-23292	[NASA-CASE-XER-09521]	c 09	N72-12136
Method of igniting solid propellants Patent			Protection of serially connected solar cells against open circuits by the use of shunting diode Patent			Sensing probe		
[NASA-CASE-XLE-01988]	c 27	N71-15634	[NASA-CASE-XLE-04535]	c 03	N71-23354	[NASA-CASE-XLE-10281-1]	c 14	N72-17327
Fluid dispensing apparatus and method Patent			Superconducting alternator Patent			Method of making emf cell		
[NASA-CASE-XLE-01182]	c 27	N71-15635	[NASA-CASE-XLE-02823]	c 09	N71-23443	[NASA-CASE-XLE-11359-2]	c 03	N72-20034
Automatically deploying nozzle exit cone extension Patent			Silicon solar cell with cover glass bonded to cell by metal pattern Patent			Gaseous control system for nuclear reactors		
[NASA-CASE-XLE-01640]	c 31	N71-15637	[NASA-CASE-XLE-08569]	c 03	N71-23449	[NASA-CASE-XLE-04599]	c 22	N72-20597
High temperature cobalt-base alloy Patent			Analytical test apparatus and method for determining oxide content of alkali metal Patent			Switching regulator		
[NASA-CASE-XLE-00726]	c 17	N71-15644	[NASA-CASE-XLE-01997]	c 06	N71-23527	[NASA-CASE-XLE-11005-1]	c 09	N72-21243
Method of making a rocket motor casing Patent			Thermionic converter with current augmented by self induced magnetic field Patent			Saturation current protection apparatus for saturable core transformers		
[NASA-CASE-XLE-00409]	c 28	N71-15658	[NASA-CASE-XLE-01903]	c 22	N71-23599	[NASA-CASE-ERC-10075-2]	c 09	N72-22196
Rocket motor casing Patent			Semiconductor material and method of making same Patent			Pulse coupling circuit		
[NASA-CASE-XLE-05689]	c 28	N71-15659	[NASA-CASE-XLE-02798]	c 26	N71-23654	[NASA-CASE-XLE-10433-1]	c 09	N72-22197
Electrostatic ion rocket engine Patent			Insulation system Patent			Solid state remote circuit selector switch		
[NASA-CASE-XLE-02066]	c 28	N71-15661	[NASA-CASE-XLE-02647]	c 18	N71-23658	[NASA-CASE-XLE-10387]	c 09	N72-22201
High temperature cobalt-base alloy Patent						Load-insensitive electrical device		
[NASA-CASE-XLE-02991]	c 17	N71-16025				[NASA-CASE-XER-11046]	c 09	N72-22203
						High speed rolling element bearing		
						[NASA-CASE-XLE-10856-1]	c 15	N72-22490
						Production of metal powders		
						[NASA-CASE-XLE-06461]	c 17	N72-22530
						Nickel base alloy		
						[NASA-CASE-XLE-10874-1]	c 17	N72-22535
						Ion thruster magnetic field control		
						[NASA-CASE-XLE-10835-1]	c 28	N72-22771

Electrically conductive fluorocarbon polymer [NASA-CASE-XLE-06774-2]	c 06	N72-25150	Electron beam controller [NASA-CASE-LEW-11617-1]	c 33	N74-10195	Ophthalmic liquifaction pump [NASA-CASE-LEW-12051-1]	c 52	N75-33640
Analog Signal to Discrete Time Interval Converter (ASDTIC) [NASA-CASE-ERC-10048]	c 09	N72-25251	Spiral groove seal [NASA-CASE-LEW-10326-3]	c 37	N74-10474	Controlled separation combustor [NASA-CASE-LEW-11593-1]	c 20	N76-14190
Controllable load insensitive power converters [NASA-CASE-ERC-10268]	c 09	N72-25252	Method of heat treating a formed powder product material [NASA-CASE-LEW-10805-3]	c 26	N74-10521	Rocket chamber and method of making [NASA-CASE-LEW-11118-2]	c 20	N76-14191
Angular velocity and acceleration measuring apparatus [NASA-CASE-ERC-10292]	c 14	N72-25410	Apparatus for welding blades to rotors [NASA-CASE-LEW-10533-2]	c 37	N74-11300	Shock position sensor for supersonic inlets [NASA-CASE-LEW-11915-1]	c 35	N76-14431
Electrical insulating layer process [NASA-CASE-LEW-10489-1]	c 15	N72-25447	High powered arc electrodes [NASA-CASE-LEW-11162-1]	c 33	N74-12913	Apparatus for forming dished ion thruster grids [NASA-CASE-LEW-11694-2]	c 37	N76-14461
Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering [NASA-CASE-LEW-10450-1]	c 15	N72-25448	Method of forming articles of manufacture from superalloy powders [NASA-CASE-LEW-10805-2]	c 37	N74-13179	Covered silicon solar cells and method of manufacture [NASA-CASE-LEW-11065-2]	c 44	N76-14600
Selective nickel deposition [NASA-CASE-LEW-10965-1]	c 15	N72-25452	Deposition of alloy films [NASA-CASE-LEW-11262-1]	c 27	N74-13270	High temperature beryllium oxide capacitor [NASA-CASE-LEW-11938-1]	c 33	N76-15373
Method of making fiber composites [NASA-CASE-LEW-10424-2-2]	c 18	N72-25539	Supersonic-combustion rocket [NASA-CASE-LEW-11058-1]	c 20	N74-13502	Thermocouple tape [NASA-CASE-LEW-11072-2]	c 35	N76-15434
Electricity measurement devices employing liquid crystalline materials [NASA-CASE-ERC-10275]	c 26	N72-25680	Method of making silicon solar cell array [NASA-CASE-LEW-11069-1]	c 44	N74-14784	Fluid journal bearings [NASA-CASE-LEW-11076-4]	c 37	N76-15461
Ablative system [NASA-CASE-LEW-10359]	c 33	N72-25911	Spiral groove seal [NASA-CASE-XLE-10326-4]	c 37	N74-15125	Deuterium pass through target [NASA-CASE-LEW-11866-1]	c 72	N76-15860
Inductance device with vacuum insulation [NASA-CASE-LEW-10330-1]	c 09	N72-27226	Method of making rolling element bearings [NASA-CASE-LEW-11087-2]	c 37	N74-15128	Fused silicide coatings containing discrete particles for protecting niobium alloys [NASA-CASE-LEW-11179-1]	c 27	N76-16229
Apparatus for sensing temperature [NASA-CASE-XLE-05230]	c 14	N72-27410	Gas turbine exhaust nozzle [NASA-CASE-LEW-11569-1]	c 07	N74-15453	Process for making anhydrous metal halides [NASA-CASE-LEW-11860-1]	c 37	N76-18458
Apparatus for producing metal powders [NASA-CASE-XLE-06461-2]	c 17	N72-28535	Demodulator for carrier transducers [NASA-CASE-NUC-10107-1]	c 33	N74-17930	Method of constructing dished ion thruster grids to provide hole array spacing compensation [NASA-CASE-LEW-11876-1]	c 20	N76-21276
Refractory metal base alloy composites [NASA-CASE-XLE-03940-2]	c 17	N72-28536	Diffusion welding in air [NASA-CASE-LEW-11387-1]	c 37	N74-18128	Bearing material [NASA-CASE-LEW-11930-1]	c 24	N76-22309
Spiral groove seal [NASA-CASE-XLE-10326-2]	c 15	N72-29488	Airflow control system for supersonic inlets [NASA-CASE-LEW-11188-1]	c 02	N74-20646	Fluid seal for rotating shafts [NASA-CASE-LEW-11676-1]	c 37	N76-22541
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Electrostatic collector for charged particles [NASA-CASE-LEW-11192-1]	c 09	N73-13208	Electromagnetic flow rate meter [NASA-CASE-LEW-10981-1]	c 35	N74-21018	Process for fabricating SiC semiconductor devices [NASA-CASE-LEW-12094-1]	c 76	N76-25049
Method of making apparatus for sensing temperature [NASA-CASE-XLE-05230-2]	c 14	N73-13417	Diffusion welding [NASA-CASE-LEW-11388-2]	c 37	N74-21055	Method of producing I-123 [NASA-CASE-LEW-11390-2]	c 25	N76-27383
Method of forming superalloys [NASA-CASE-LEW-10805-1]	c 15	N73-13465	Journal bearings [NASA-CASE-LEW-11076-1]	c 37	N74-21061	Production of I-123 [NASA-CASE-LEW-11390-3]	c 25	N76-29379
Rocket thrust throttling system [NASA-CASE-LEW-10374-1]	c 28	N73-13773	Glass-to-metal seals comprising relatively high expansion metals [NASA-CASE-LEW-10698-1]	c 37	N74-21063	Thrust bearing [NASA-CASE-LEW-11949-1]	c 37	N76-29588
Gas turbine engine fuel control [NASA-CASE-LEW-11187-1]	c 28	N73-19793	Hollow rolling element bearings [NASA-CASE-LEW-11087-3]	c 37	N74-21064	Ion beam thruster shield [NASA-CASE-LEW-12082-1]	c 20	N77-10148
Thermocouple tape [NASA-CASE-LEW-11072-1]	c 14	N73-24472	Low level signal limiter [NASA-CASE-XLE-04791]	c 32	N74-22096	Dual output variable pitch turbofan actuation system [NASA-CASE-LEW-12419-1]	c 07	N77-14025
Method and apparatus for sputtering utilizing an apertured electrode and a pulsed substrate bias [NASA-CASE-LEW-10920-1]	c 17	N73-24569	Load insensitive electrical device [NASA-CASE-XER-11046-2]	c 33	N74-22864	Silicon nitride coated, plastic covered solar cell [NASA-CASE-LEW-11496-1]	c 44	N77-14580
Magneto-plasma-dynamic arc thruster [NASA-CASE-LEW-11180-1]	c 25	N73-25760	Reinforced structural plastics [NASA-CASE-LEW-10199-1]	c 27	N74-23125	Electrically rechargeable REDOX flow cell [NASA-CASE-LEW-12220-1]	c 44	N77-14581
Ablative system [NASA-CASE-LEW-10359-2]	c 33	N73-25952	Jet exhaust noise suppressor [NASA-CASE-LEW-11286-1]	c 07	N74-27490	Reverse pitch fan with divided splitter [NASA-CASE-LEW-12760-1]	c 07	N77-17059
Parasitic suppressing circuit [NASA-CASE-ERC-10403-1]	c 10	N73-26228	High current electrical lead [NASA-CASE-LEW-10950-1]	c 33	N74-27683	Electronic analog divider [NASA-CASE-LEW-11881-1]	c 33	N77-17354
Twisted multifilament superconductor [NASA-CASE-LEW-11726-1]	c 26	N73-26752	Magnetocaloric pump [NASA-CASE-LEW-11672-1]	c 37	N74-27904	Leading edge protection for composite blades [NASA-CASE-LEW-12550-1]	c 24	N77-19170
Ophthalmic method and apparatus [NASA-CASE-LEW-11669-1]	c 05	N73-27062	Supersonic fan blading [NASA-CASE-LEW-11402-1]	c 07	N74-28226	Method of making reinforced composite structure [NASA-CASE-LEW-12619-1]	c 24	N77-19171
Single grid accelerator for an ion thruster [NASA-CASE-XLE-10453-2]	c 28	N73-27699	Production of pure metals [NASA-CASE-LEW-10906-1]	c 25	N74-30502	Solar cell assembly [NASA-CASE-LEW-11549-1]	c 44	N77-19571
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Method and apparatus for measuring electromagnetic radiation [NASA-CASE-LEW-11159-1]	c 14	N73-28488	Method of electroforming a rocket chamber [NASA-CASE-LEW-11118-1]	c 20	N74-32919	Zirconium modified nickel-copper alloy [NASA-CASE-LEW-12245-1]	c 26	N77-20201
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Enhanced diffusion welding [NASA-CASE-LEW-11388-1]	c 15	N73-32358	Circuit for detecting initial systole and diastolic notch [NASA-CASE-LEW-11581-1]	c 54	N75-13531	Blade retainer assembly [NASA-CASE-LEW-12608-1]	c 07	N77-27116
High speed hybrid bearing comprising a fluid bearing and a rolling bearing connected in series [NASA-CASE-LEW-11152-1]	c 15	N73-32359	Method of making dished ion thruster grids [NASA-CASE-LEW-11694-1]	c 20	N75-18310	Hybrid composite laminate structures [NASA-CASE-LEW-12118-1]	c 24	N77-27188
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			Drilled ball bearing with a one piece anti-tipping cage assembly [NASA-CASE-LEW-11925-1]	c 37	N75-31446	Nickel base alloy [NASA-CASE-LEW-12270-1]	c 26	N77-32280
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- Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
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- Castable hot corrosion resistant alloy  
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- Liquid sheet radiator apparatus  
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- National Aeronautics and Space Administration.**  
**Manned Spacecraft Center, Cape Canaveral, FL.**  
Electrode for biological recording  
[NASA-CASE-XMS-02872] c 05 N69-21925
- National Aeronautics and Space Administration.**  
**Manned Spacecraft Center, Langley Station, VA.**  
Plural recorder system  
[NASA-CASE-XMS-06949] c 09 N69-21467
- National Aeronautics and Space Administration.**  
**Marshall Space Flight Center, Huntsville, AL.**  
Electrical feed-through connection for printed circuit boards and printed cable  
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- Method for detecting hydrogen gas  
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Electrical connector Patent Application				Synthesis of siloxane-containing epoxy polymers Patent			Elastomeric silazane polymers and process for preparing the same Patent		
[NASA-CASE-MFS-14741]	c 09	N70-20737		[NASA-CASE-MFS-13994-1]	c 06	N71-11240	[NASA-CASE-XMF-04133]	c 06	N71-20717
Angular measurement system Patent				Bi-carrier demodulator with modulation Patent			Method of producing alternating ether siloxane copolymers Patent		
[NASA-CASE-XMF-00447]	c 14	N70-33179		[NASA-CASE-XMF-01160]	c 07	N71-11298	[NASA-CASE-XMF-02584]	c 06	N71-20905
Insulating structure Patent				Harness assembly Patent			Honeycomb panel and method of making same Patent		
[NASA-CASE-XMF-00341]	c 15	N70-33323		[NASA-CASE-MFS-14671]	c 05	N71-12341	[NASA-CASE-XMF-01402]	c 18	N71-21651
Space vehicle electrical system Patent				Magnetic matrix memory system Patent			Portable milling tool Patent		
[NASA-CASE-XMF-00517]	c 03	N70-34157		[NASA-CASE-XMF-05835]	c 08	N71-12504	[NASA-CASE-XMF-03511]	c 15	N71-22799
Pivotal shock absorbing pad assembly Patent				Pulse amplitude and width detector Patent			Energy absorbing device Patent		
[NASA-CASE-XMF-03856]	c 31	N70-34159		[NASA-CASE-XMF-06519]	c 09	N71-12519	[NASA-CASE-XMF-10040]	c 15	N71-22877
Gimbaled, partially submerged rocket nozzle Patent				Microwave power receiving antenna Patent			Continuous detonation reaction engine Patent		
[NASA-CASE-XMF-01544]	c 28	N70-34162		[NASA-CASE-MFS-20333]	c 09	N71-13486	[NASA-CASE-XMF-06926]	c 28	N71-22983
Recoverable rocket vehicle Patent				Hybrid holographic system using reflected and transmitted object beams simultaneously Patent			[NASA-CASE-XMF-01892]	c 10	N71-22986
[NASA-CASE-XMF-00389]	c 31	N70-34176		[NASA-CASE-MFS-20074]	c 16	N71-15565	Meteorological balloon Patent		
Electrical discharge apparatus for forming Patent				Reactance control system Patent			[NASA-CASE-XMF-04163]	c 02	N71-23007
[NASA-CASE-XMF-00375]	c 15	N70-34249		[NASA-CASE-XMF-01598]	c 21	N71-15583	Continuous turning slip ring assembly Patent		
Optical inspection apparatus Patent				Apparatus for welding torch angle and seam tracking control Patent			[NASA-CASE-XMF-01049]	c 15	N71-23049
[NASA-CASE-XMF-00462]	c 14	N70-34298		[NASA-CASE-XMF-03287]	c 15	N71-15607	Automatic welding speed controller Patent		
Relay binary circuit Patent				Multiway vortex valve system Patent			[NASA-CASE-XMF-01730]	c 15	N71-23050
[NASA-CASE-XMF-00421]	c 09	N70-34502		[NASA-CASE-XMF-04709]	c 15	N71-15609	Positive dc to positive dc converter Patent		
Attitude and propellant flow control system and method Patent				Injector assembly for liquid fueled rocket engines Patent			[NASA-CASE-XMF-14301]	c 09	N71-23188
[NASA-CASE-XMF-00185]	c 21	N70-34539		[NASA-CASE-XMF-00968]	c 28	N71-15660	Zero gravity apparatus Patent		
Electrical connector for flat cables Patent				Space capsule ejection assembly Patent			[NASA-CASE-XMF-06515]	c 14	N71-23227
[NASA-CASE-XMF-00324]	c 09	N70-34596		[NASA-CASE-XMF-03169]	c 31	N71-15675	Positive dc to negative dc converter Patent		
Externally pressurized fluid bearing Patent				Air cushion lift pad Patent			[NASA-CASE-XMF-08217]	c 03	N71-23239
[NASA-CASE-XMF-00515]	c 15	N70-34664		[NASA-CASE-MFS-14685]	c 31	N71-15689	Evacuation port seal Patent		
Force measuring instrument Patent				Method of making a molded connector Patent			[NASA-CASE-XMF-03290]	c 15	N71-23256
[NASA-CASE-XMF-00456]	c 14	N70-34705		[NASA-CASE-XMF-03498]	c 15	N71-15986	Azimuth laying system Patent		
Seismic displacement transducer Patent				Regenerative braking system Patent			[NASA-CASE-XMF-01669]	c 21	N71-23289
[NASA-CASE-XMF-00479]	c 14	N70-34794		[NASA-CASE-XMF-01096]	c 10	N71-16030	Electron beam instrument for measuring electric fields Patent		
Electric arc welding Patent				Condition and condition duration indicator Patent			[NASA-CASE-XMF-10289]	c 14	N71-23699
[NASA-CASE-XMF-00392]	c 15	N70-34814		[NASA-CASE-XMF-01097]	c 10	N71-16058	Anemometer with braking mechanism Patent		
Assembly for recovering a capsule Patent				Method and apparatus for securing to a spacecraft Patent			[NASA-CASE-XMF-05224]	c 14	N71-23726
[NASA-CASE-XMF-00641]	c 31	N70-36410		[NASA-CASE-MFS-11133]	c 31	N71-16222	Apparatus for testing a pressure responsive instrument Patent		
Printed cable connector Patent				Method and apparatus of simulating zero gravity conditions Patent			[NASA-CASE-XMF-04134]	c 14	N71-23755
[NASA-CASE-XMF-00369]	c 09	N70-36494		[NASA-CASE-MFS-12750]	c 27	N71-16223	Electric welding torch Patent		
Landing pad assembly for aerospace vehicles Patent				Passive optical wind and turbulence detection system Patent			[NASA-CASE-XMF-02330]	c 15	N71-23798
[NASA-CASE-XMF-02853]	c 31	N70-36654		[NASA-CASE-XMF-14032]	c 20	N71-16340	Swivel support for gas bearings Patent		
Electric arc driven wind tunnel Patent				Serpentuator Patent			[NASA-CASE-XMF-07808]	c 15	N71-23812
[NASA-CASE-XMF-00411]	c 11	N70-36913		[NASA-CASE-XMF-05344]	c 31	N71-16345	Welding skate with computerized control Patent		
Gravity device Patent				Gravimeter Patent			[NASA-CASE-XMF-07069]	c 15	N71-23815
[NASA-CASE-XMF-00424]	c 11	N70-38196		[NASA-CASE-XMF-05844]	c 14	N71-17587	Docking structure for spacecraft Patent		
Injector for bipropellant rocket engines Patent				High pressure gas filter system Patent			[NASA-CASE-XMF-05941]	c 31	N71-23912
[NASA-CASE-XMF-00148]	c 28	N70-38710		[NASA-CASE-MFS-12806]	c 14	N71-17588	High pressure helium purifier Patent		
Electronic motor control system Patent				Burst diaphragm flow initiator Patent			[NASA-CASE-XMF-06888]	c 15	N71-24044
[NASA-CASE-XMF-01129]	c 09	N70-38712		[NASA-CASE-MFS-12915]	c 11	N71-17600	Horizontal cryostat for fatigue testing Patent		
Slosh suppressing device and method Patent				Vacuum deposition apparatus Patent			[NASA-CASE-XMF-10968]	c 14	N71-24234
[NASA-CASE-XMF-00658]	c 12	N70-38997		[NASA-CASE-XMF-01667]	c 15	N71-17647	Method for leakage testing of tanks Patent		
Air bearing Patent				Quick disconnect latch and handle combination Patent			[NASA-CASE-XMF-02392]	c 32	N71-24285
[NASA-CASE-XMF-00339]	c 15	N70-39896		[NASA-CASE-MFS-11132]	c 15	N71-17649	Internal flare angle gauge Patent		
Instrument support with precise lateral adjustment Patent				Method and apparatus for precision sizing and joining of large diameter tubes Patent			[NASA-CASE-XMF-04415]	c 14	N71-24693
[NASA-CASE-XMF-00480]	c 14	N70-39898		[NASA-CASE-XMF-05114]	c 15	N71-17650	Pulse rise time and amplitude detector Patent		
Segmented back-up bar Patent				Low temperature flexure fatigue cryostat Patent			[NASA-CASE-XMF-08804]	c 09	N71-24717
[NASA-CASE-XMF-00640]	c 15	N70-39924		[NASA-CASE-XMF-02964]	c 14	N71-17659	System for maintaining a motor at a predetermined speed utilizing digital feedback means Patent		
Collapsible loop antenna for space vehicle Patent				Precision stepping drive Patent			[NASA-CASE-XMF-06892]	c 09	N71-24805
[NASA-CASE-XMF-00437]	c 07	N70-40202		[NASA-CASE-MFS-14772]	c 15	N71-17692	Power system with heat pipe liquid coolant lines Patent		
Flexible back-up bar Patent				Multi-mission module Patent			[NASA-CASE-MFS-14114-2]	c 09	N71-24807
[NASA-CASE-XMF-00722]	c 15	N70-40204		[NASA-CASE-XMF-01543]	c 31	N71-17730	Magnetomotive metal working device Patent		
Electro-optical alignment control system Patent				Ratchet mechanism Patent			[NASA-CASE-XMF-03793]	c 15	N71-24833
[NASA-CASE-XMF-00908]	c 14	N70-40238		[NASA-CASE-MFS-12805]	c 15	N71-17805	Apparatus for determining the deflection of an electron beam impinging on a target Patent		
Missile launch release system Patent				Method of making impurity-type semiconductor electrical contacts Patent			[NASA-CASE-XMF-06617]	c 09	N71-24843
[NASA-CASE-XMF-03198]	c 30	N70-40353		[NASA-CASE-XMF-01016]	c 26	N71-17818	Transistor servo system including a unique differential amplifier circuit Patent		
Double-acting shock absorber Patent				Apparatus for the determination of the existence or non-existence of a bonding between two members Patent			[NASA-CASE-XMF-05195]	c 10	N71-24861
[NASA-CASE-XMF-01045]	c 15	N70-40354		[NASA-CASE-MFS-13686]	c 15	N71-18132	RC rate generator for slow speed measurement Patent		
Portable alignment tool Patent				Static inverters which sum a plurality of waves Patent			[NASA-CASE-XMF-02966]	c 10	N71-24863
[NASA-CASE-XMF-01452]	c 15	N70-41371		[NASA-CASE-XMF-00663]	c 08	N71-18752	Method and apparatus for precision sizing and joining of large diameter tubes Patent		
Device for suppressing sound and heat produced by high-velocity exhaust jets Patent				Space environmental work simulator Patent			[NASA-CASE-XMF-05114-3]	c 15	N71-24865
[NASA-CASE-XMF-01813]	c 28	N70-41582		[NASA-CASE-XMF-07488]	c 11	N71-18773	Duct coupling for single-handed operation Patent		
Unfired-ceramic flame-resistant insulation and method of making the same Patent				Space manufacturing machine Patent			[NASA-CASE-MFS-20395]	c 15	N71-24903
[NASA-CASE-XMF-01030]	c 18	N70-41583		[NASA-CASE-MFS-20410]	c 15	N71-19214	Brushless direct current tachometer Patent		
Pulse counting circuit which simultaneously indicates the occurrence of the nth pulse Patent				Extensometer Patent			[NASA-CASE-MFS-20385]	c 09	N71-24904
[NASA-CASE-XMF-00906]	c 09	N70-41655		[NASA-CASE-XMF-04680]	c 15	N71-19489	Self-lubricating gears and other mechanical parts Patent		
Support apparatus for dynamic testing Patent				Mechanical simulator of low gravity conditions Patent			[NASA-CASE-MFS-14971]	c 15	N71-24984
[NASA-CASE-XMF-01772]	c 11	N70-41677		[NASA-CASE-MFS-10555]	c 11	N71-19494	Pulse width inverter Patent		
Locking device with rolling detents Patent				Weld control system using thermocouple wire Patent			[NASA-CASE-MFS-10068]	c 10	N71-25139
[NASA-CASE-XMF-01371]	c 15	N70-41829		[NASA-CASE-MFS-06074]	c 15	N71-20393	Isothermal cover with thermal reservoirs Patent		
Tank construction for space vehicles Patent				Evaporant source for vapor deposition Patent			[NASA-CASE-MFS-20355]	c 33	N71-25353
[NASA-CASE-XMF-01899]	c 31	N70-41948		[NASA-CASE-XMF-06065]	c 15	N71-20395	Storage container for electronic devices Patent		
Positive displacement flowmeter Patent				Satellite despin device Patent			[NASA-CASE-MFS-20075]	c 09	N71-26133
[NASA-CASE-XMF-02822]	c 14	N70-41994		[NASA-CASE-XMF-08523]	c 31	N71-20396	Method and apparatus for precision sizing and joining of large diameter tubes Patent		
Hydraulic support for dynamic testing Patent				Method of coating circuit paths on printed circuit boards with solder Patent			[NASA-CASE-XMF-05114-2]	c 15	N71-26148
[NASA-CASE-XMF-03248]	c 11	N71-10604		[NASA-CASE-XMF-01599]	c 09	N71-20705			
Fiber optic vibration transducer and analyzer Patent									
[NASA-CASE-XMF-02433]	c 14	N71-10616							
Method and means for damping nutation in a satellite Patent									
[NASA-CASE-XMF-00442]	c 31	N71-10747							
Heat pipe thermionic diode power system Patent									
[NASA-CASE-XMF-05843]	c 03	N71-11055							

Filter system for control of outgas contamination in vacuum Patent	c 15	N71-26185	Semiconductor transducer device	c 14	N72-31446	Reinforced polyquinoxaline gasket and method of preparing the same	c 37	N74-18126
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Image magnification adapter for cameras Patent	c 14	N71-26474	Coaxial high density, hypervelocity plasma generator and accelerator with ionizable metal disc	c 25	N72-32688	Manual actuator	c 37	N74-18127
[NASA-CASE-XMF-03844-1]			[NASA-CASE-MFS-20589]			[NASA-CASE-MFS-21481-1]		
Thickness measuring and injection device Patent	c 14	N71-27005	Process for the preparation of brushite crystals	c 04	N72-33072	Cryogenic gyroscope housing	c 35	N74-18323
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Personal propulsion unit Patent	c 28	N71-27585	Adjustable force probe	c 14	N72-33377	Automatic frequency control for FM transmitter	c 32	N74-19790
[NASA-CASE-MFS-20130]			[NASA-CASE-MFS-20760]			[NASA-CASE-MFS-21540-1]		
Power system with heat pipe liquid coolant lines Patent	c 33	N71-27862	Polyimide resin-fiberglass cloth laminates for printed circuit boards	c 18	N73-12604	Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver	c 44	N74-19870
[NASA-CASE-MFS-14114]			[NASA-CASE-MFS-20408]			[NASA-CASE-MFS-21470-1]		
Method of making shielded flat cable Patent	c 09	N71-28691	Differential pressure control	c 14	N73-13418	Reduced gravity fecal collector seat and urinal	c 54	N74-20725
[NASA-CASE-MFS-13687]			[NASA-CASE-MFS-14216]			[NASA-CASE-MFS-22102-1]		
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Cryogenic thermal insulation Patent	c 33	N71-28892	Device and method for determining X ray reflection efficiency of optical surfaces	c 23	N73-13662	Automatic quadrature control and measuring system	c 35	N74-21017
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Method of coating through-holes Patent	c 15	N71-29032	Process for making diamonds	c 15	N73-19457	Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids	c 37	N74-21058
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Nuclear mass flowmeter	c 14	N72-11365	Ratemeter	c 14	N73-24473	Two speed drive system	c 37	N74-23070
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Fine adjustment mount	c 15	N72-11386	Underwater space suit pressure control regulator	c 05	N73-25125	Insert facing tool	c 37	N74-25968
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Air bearing assembly for curved surfaces	c 15	N72-11388	Monitoring deposition of films	c 26	N73-26751	Device for monitoring a change in mass in varying gravimetric environments	c 35	N74-26945
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Apparatus for obtaining isotropic irradiation of a specimen	c 24	N72-11595	Wide temperature range electronic device with lead attachment	c 09	N73-27150	Sprag solenoid brake	c 37	N74-26976
[NASA-CASE-MFS-20095]			[NASA-CASE-ERC-10224-2]			[NASA-CASE-MFS-21846-1]		
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[NASA-CASE-XER-08476-1]			[NASA-CASE-MFS-21109-1]			[NASA-CASE-MFS-20761-1]		
Underwater space suit pressure control regulator	c 05	N72-20097	Tilting table for ergometer and for other biomedical devices	c 05	N73-30078	Apparatus for establishing flow of a fluid mass having a known velocity	c 34	N74-27730
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Apparatus for making diamonds	c 15	N72-20446	Measurement system	c 14	N73-30386	Apparatus for conducting flow electrophoresis in the substantial absence of gravity	c 34	N74-27744
[NASA-CASE-MFS-20698]			[NASA-CASE-MFS-20658-1]			[NASA-CASE-MFS-21394-1]		
An airlock	c 31	N72-20840	Collimator of multiple plates with axially aligned identical random arrays of apertures	c 14	N73-30389	Steady state thermal radiometers	c 34	N74-27861
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Liquid aerosol dispenser	c 12	N72-21310	Semiconductor surface protection material	c 18	N73-30532	Device for measuring tensile forces	c 35	N74-27865
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Optical probing of supersonic flows with statistical correlation	c 14	N72-21407	Polymerizable disiloxanes having in-chain perfluoroalkyl groups	c 06	N73-32030	Three mirror glancing incidence system for X-ray telescope	c 74	N74-27866
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Shock wave convergence apparatus	c 14	N72-22439	Ultrasonic scanner for radial and flat panels	c 35	N74-10415	Ultrasonic bone densitometer	c 35	N75-12271
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High temperature furnace for melting materials in space	c 11	N72-23215	Vee-notching device	c 39	N74-13131	Automatically operable self-leveling load table	c 09	N75-12968
[NASA-CASE-MFS-20710]			[NASA-CASE-MFS-20730-1]			[NASA-CASE-MFS-22039-1]		
Siloxane containing epoxide compounds	c 06	N72-25148	Ultrasonic scanning system for in-place inspection of brazed tube joints	c 38	N74-15130	Phase-locked servo system	c 33	N75-13139
[NASA-CASE-MFS-13994-2]			[NASA-CASE-MFS-20767-1]			[NASA-CASE-MFS-22073-1]		
Silphenylenesiloxane polymers having in-chain perfluoroalkyl groups	c 06	N72-25151	Method and apparatus for checking the stability of a setup for making reflection type holograms	c 35	N74-15146	Self-energized plasma compressor	c 75	N75-13625
[NASA-CASE-MFS-20979]			[NASA-CASE-MFS-21455-1]			[NASA-CASE-MFS-22145-1]		
Emergency lunar communications system	c 07	N72-25171	Method and apparatus for nondestructive testing	c 38	N74-15395	Clear air turbulence detector	c 36	N75-15028
[NASA-CASE-MFS-21042]			[NASA-CASE-MFS-21233-1]			[NASA-CASE-MFS-21244-1]		
Lead attachment to high temperature devices	c 09	N72-25261	Real time moving scene holographic camera system	c 35	N74-17153	Variable frequency inverter for ac induction motors with torque, speed and braking control	c 33	N75-15874
[NASA-CASE-ERC-10224]			[NASA-CASE-MFS-21067-1]			[NASA-CASE-MFS-22088-1]		
Device for measuring bearing preload	c 11	N72-25288	Nonflammable coating compositions	c 27	N74-17283	Leak detector	c 35	N75-15931
[NASA-CASE-MFS-20434]			[NASA-CASE-MFS-20486-2]			[NASA-CASE-MFS-21761-1]		
Altitude simulation chamber for rocket engine testing	c 11	N72-27262	Metering gun for dispensing precisely measured charges of fluid	c 54	N74-17853	Ergometer calibrator	c 35	N75-15932
[NASA-CASE-MFS-20620]			[NASA-CASE-MFS-21163-1]			[NASA-CASE-MFS-21045-1]		
Fixture for supporting articles during vibration tests	c 14	N72-27412	Omnidirectional wheel	c 37	N74-18125	Space vehicle	c 18	N75-19329
[NASA-CASE-MFS-20523]			[NASA-CASE-MFS-21309-1]			[NASA-CASE-MFS-22734-1]		
Electrical connector	c 09	N72-28225						
[NASA-CASE-MFS-20757]								
Remote control manipulator for zero gravity environment	c 15	N72-28495						
[NASA-CASE-MFS-14405]								
Thermal compensating structural member	c 15	N72-28496						
[NASA-CASE-MFS-20433]								

Meter for use in detecting tension in straps having predetermined elastic characteristics [NASA-CASE-MFS-22189-1]	c 35	N75-19615	System for imposing directional stability on a rocket-propelled vehicle [NASA-CASE-MFS-21311-1]	c 20	N76-21275	Method of and means for testing a glancing-incidence mirror system of an X-ray telescope [NASA-CASE-MFS-22409-2]	c 74	N78-15880
Multiplate focusing collimator [NASA-CASE-MFS-20932-1]	c 35	N75-19616	Filtering device [NASA-CASE-MFS-22729-1]	c 32	N76-21366	Projection system for display of parallax and perspective [NASA-CASE-MFS-23194-1]	c 35	N78-17357
Latching device [NASA-CASE-MFS-21606-1]	c 37	N75-19685	Translatory shock absorber for attitude sensors [NASA-CASE-MFS-22905-1]	c 19	N76-22284	Gas ion laser construction for electrically isolating the pressure gauge thereof [NASA-CASE-MFS-22597-1]	c 36	N78-17366
Internally supported flexible duct joint [NASA-CASE-MFS-19193-1]	c 37	N75-19686	Device for installing rocket engines [NASA-CASE-MFS-19220-1]	c 20	N76-22296	Wrist joint assembly [NASA-CASE-MFS-23311-1]	c 54	N78-17676
Pseudo-noise test set for communication system evaluation [NASA-CASE-MFS-22671-1]	c 35	N75-21582	Deployable flexible tunnel [NASA-CASE-MFS-22636-1]	c 37	N76-22540	Semiconductor projectile impact detector [NASA-CASE-MFS-23008-1]	c 35	N78-18390
Device for use in loading tension members [NASA-CASE-MFS-21488-1]	c 14	N75-24794	Solar energy absorber [NASA-CASE-MFS-22743-1]	c 44	N76-22657	Sprayable low density ablator and application process [NASA-CASE-MFS-23506-1]	c 24	N78-24290
Holographic system for nondestructive testing [NASA-CASE-MFS-21704-1]	c 35	N75-25124	Apparatus for reducing aerodynamic noise in a wind tunnel [NASA-CASE-MFS-23099-1]	c 09	N76-23273	Apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction [NASA-CASE-MFS-23315-1]	c 76	N78-24950
Hole cutter [NASA-CASE-MFS-22649-1]	c 37	N75-25186	Solar energy power system [NASA-CASE-MFS-21628-2]	c 44	N76-23675	Tetherline system for orbiting satellites [NASA-CASE-MFS-23564-1]	c 15	N78-25119
Apparatus for calibrating an image dissector tube [NASA-CASE-MFS-22208-1]	c 33	N75-26244	Solar energy trap [NASA-CASE-MFS-22744-1]	c 44	N76-24696	Method and apparatus for conditioning of nickel-cadmium batteries [NASA-CASE-MFS-23270-1]	c 44	N78-25531
Method of determining bond quality of power transistors attached to substrates [NASA-CASE-MFS-21931-1]	c 37	N75-26372	Failure detection and control means for improved drift performance of a gimbaled platform system [NASA-CASE-MFS-23551-1]	c 04	N76-26175	Passive propellant system [NASA-CASE-MFS-23642-2]	c 20	N78-27176
Anti-gravity device [NASA-CASE-MFS-22758-1]	c 70	N75-26789	Lead-oxygen dc power supply system having a closed loop oxygen and water system [NASA-CASE-MFS-23059-1]	c 44	N76-27664	Field effect transistor and method of construction thereof [NASA-CASE-MFS-23312-1]	c 33	N78-27326
Brazing alloy binder [NASA-CASE-MFS-22649-1]	c 26	N75-27125	Thermal energy storage system [NASA-CASE-MFS-23167-1]	c 44	N76-31667	Plasma cleaning device [NASA-CASE-MFS-22906-1]	c 75	N78-27913
Brazing alloy composition [NASA-CASE-MFS-226053]	c 26	N75-27126	Aircraft-mounted crash-activated transmitter device [NASA-CASE-MFS-16609-3]	c 03	N76-32140	Process for spinning flame retardant elastomeric compositions [NASA-CASE-MSC-14331-3]	c 27	N78-32262
Refractory porcelain enamel passive control coating for high temperature alloys [NASA-CASE-MFS-22324-1]	c 27	N75-27160	Multiple in-line docking capability for rotating space stations [NASA-CASE-MFS-20855-1]	c 15	N77-10112	Velocity measurement system [NASA-CASE-MFS-23363-1]	c 35	N78-32396
Real time, large volume, moving scene holographic camera system [NASA-CASE-MFS-22537-1]	c 35	N75-27328	Attitude control system [NASA-CASE-MFS-22787-1]	c 15	N77-10113	Hybrid holographic non-destructive test system [NASA-CASE-MFS-23114-1]	c 38	N78-32447
Method and apparatus for vibration analysis utilizing the Mossbauer effect [NASA-CASE-MFS-05882]	c 35	N75-27329	Heat exchanger [NASA-CASE-MFS-22991-1]	c 34	N77-10463	FM/CW radar system [NASA-CASE-MFS-22234-1]	c 32	N79-10264
Method of preparing graphite reinforced aluminum composite [NASA-CASE-MFS-21077-1]	c 24	N75-28135	Focused laser Doppler velocimeter [NASA-CASE-MFS-23178-1]	c 35	N77-10493	Method of obtaining intensified image from developed photographic films and plates [NASA-CASE-MFS-23461-1]	c 35	N79-10389
Carbon monoxide monitor [NASA-CASE-MFS-22060-1]	c 35	N75-29380	Photovoltaic cell array [NASA-CASE-MFS-22458-1]	c 44	N77-10635	Computerized system for translating a torch head [NASA-CASE-MFS-23620-1]	c 37	N79-10421
Perfluoro alkylene dioxy-bis-(4-phthalic anhydrides and oxy-bis-(perfluoroalkyleneoxyphthalic anhydrides [NASA-CASE-MFS-22356-1]	c 23	N75-30256	Wind measurement system [NASA-CASE-MFS-23362-1]	c 47	N77-10753	Rotatable mass for a flywheel [NASA-CASE-MFS-23051-1]	c 37	N79-10422
Integrable power gyrator [NASA-CASE-MFS-22342-1]	c 33	N75-30428	Mechanical thermal motor [NASA-CASE-MFS-23062-1]	c 37	N77-12402	Water system virus detection [NASA-CASE-MSC-16098-1]	c 51	N79-10693
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Solar energy power system [NASA-CASE-MFS-21628-1]	c 44	N75-32581	Actuator device for artificial leg [NASA-CASE-MFS-23225-1]	c 52	N77-14735	Apparatus for assembling space structure [NASA-CASE-MFS-23579-1]	c 18	N79-11108
System for enhancing tool-exchange capabilities of a portable wrench [NASA-CASE-MFS-22283-1]	c 37	N75-33395	Frequency modulated oscillator [NASA-CASE-MFS-23181-1]	c 33	N77-17351	Spherical bearing [NASA-CASE-MFS-23447-1]	c 37	N79-11404
Externally supported internally stabilized flexible duct joint [NASA-CASE-MFS-19194-1]	c 37	N76-14460	Method of and means for testing a tape record/playback system [NASA-CASE-MFS-22671-2]	c 35	N77-17426	Method for making an aluminum or copper substrate panel for selective absorption of solar energy [NASA-CASE-MFS-23518-1]	c 44	N79-11469
Quick disconnect filter coupling [NASA-CASE-MFS-22323-1]	c 37	N76-14463	Notch filter [NASA-CASE-MFS-23303-1]	c 32	N77-18307	System for the measurement of ultra-low stray light levels [NASA-CASE-MFS-23513-1]	c 74	N79-11865
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Two stage light gas-plasma projectile accelerator [NASA-CASE-MFS-22287-1]	c 75	N76-14931	Emergency descent device [NASA-CASE-MFS-23074-1]	c 54	N77-21844	Direct current transformer [NASA-CASE-MFS-23659-1]	c 33	N79-17133
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Remotely operable articulated manipulator [NASA-CASE-MFS-22707-1]	c 37	N76-15457	Combined docking and grasping device [NASA-CASE-MFS-23088-1]	c 37	N77-23483	Fluid thrust control system [NASA-CASE-MFS-05964-1]	c 20	N79-21124
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Device for measuring the ferrite content in an austenitic stainless-steel weld [NASA-CASE-MFS-22907-1]	c 26	N76-18257	Method of preparing zinc orthotitanate pigment [NASA-CASE-MFS-23345-1]	c 27	N77-30237	Method and apparatus for preparing multiconductor cable with flat conductors [NASA-CASE-MFS-10946-1]	c 31	N79-21226
Heat transfer device [NASA-CASE-MFS-22938-1]	c 34	N76-18374	Accumulator [NASA-CASE-MFS-19287-1]	c 34	N77-30399	Edge coating of flat wires [NASA-CASE-MFS-05757-1]	c 31	N79-21227
Holographic motion picture camera with Doppler shift compensation [NASA-CASE-MFS-22517-1]	c 35	N76-18402	Tachometer [NASA-CASE-MFS-23175-1]	c 35	N77-30436	Stable superconducting magnet [NASA-CASE-MFS-05373-1]	c 33	N79-21264
Method of peening and portable peening gun [NASA-CASE-MFS-23047-1]	c 37	N76-18454	Real time reflectometer [NASA-CASE-MFS-23118-1]	c 35	N77-31465	Retractable environmental seal [NASA-CASE-MFS-23646-1]	c 37	N79-22474
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			Laser extensometer [NASA-CASE-MFS-19259-1]	c 36	N78-14380	Contour measurement system [NASA-CASE-MFS-23726-1]	c 43	N79-26439

Method of construction of a multi-cell solar array	[NASA-CASE-MFS-23540-1]	c 44	N79-26475	Electrophoresis device	[NASA-CASE-MFS-25426-1]	c 25	N83-10126	Apparatus for measuring charged particle beam	[NASA-CASE-MFS-25641-1]	c 72	N84-28575
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Electrophoretic fractional elution apparatus employing a rotational seal fraction collector	[NASA-CASE-MFS-23284-1]	c 37	N80-14397	Extended range X-ray telescope	[NASA-CASE-MFS-25282-1]	c 34	N83-19015	Impacting device for testing insulation	[NASA-CASE-MFS-25862-2]	c 37	N84-33807
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Cork-resin ablative insulation for complex surfaces and method for applying the same	[NASA-CASE-MFS-23626-1]	c 24	N80-26388	Adaptive reference voltage generator for firing angle control of line-commutated inverters	[NASA-CASE-MFS-25215-1]	c 33	N83-31953	Device and method for frictionally testing materials for ignitability	[NASA-CASE-MSC-20622-1]	c 25	N86-19413
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Three phase power factor controller	[NASA-CASE-MFS-25535-1]	c 33	N81-12330	Adaptive control system for line-commutated inverters	[NASA-CASE-MFS-25209-1]	c 33	N83-35227	Apparatus for adapting an end effector device remotely controlled manipulator arm	[NASA-CASE-MFS-25949-1]	c 37	N86-19603
Method and apparatus for shaping and enhancing acoustical levitation forces	[NASA-CASE-MFS-25050-1]	c 71	N81-15767	Apparatus and method for heating a material in a transparent ampoule	[NASA-CASE-MFS-25436-1]	c 27	N83-36220	Spectral slicing X-ray telescope with variable magnification	[NASA-CASE-MFS-25942-1]	c 74	N86-20124
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Process for preparation of large-particle-size monodisperse latexes	[NASA-CASE-MFS-25000-1]	c 25	N81-19242	Prosthetic occlusive device for an internal passageway	[NASA-CASE-MFS-25740-1]	c 52	N84-11744	Space probe/satellite ejection apparatus for spacecraft	[NASA-CASE-MFS-25429-1]	c 18	N86-20469
Containerless high temperature calorimeter apparatus	[NASA-CASE-MFS-23923-1]	c 35	N81-19426	Constant-output atomizer	[NASA-CASE-MFS-25631-1]	c 34	N84-12406	Wind dynamic range video camera	[NASA-CASE-MFS-25750-1]	c 32	N86-20647
Electrical power generating system	[NASA-CASE-MFS-24368-3]	c 33	N81-22280	Heat sealable, flame and abrasion resistant coated fabric	[NASA-CASE-MSC-18382-2]	c 27	N84-14324	Amplifier for measuring low-level signals in the presence of high common mode voltage	[NASA-CASE-MFS-25868-1]	c 33	N86-20670
Solar tracking system	[NASA-CASE-MFS-23999-1]	c 44	N81-24520	Electrical self-aligning connector	[NASA-CASE-MFS-25211-2]	c 33	N84-14423	High gradient directional solidification furnace	[NASA-CASE-MFS-25963-1]	c 35	N86-20750
Prosthetic urinary sphincter	[NASA-CASE-MFS-23717-1]	c 52	N81-25660	Control system for an induction motor with energy recovery	[NASA-CASE-MFS-25477-1]	c 33	N84-14424	Damping seal for turbomachinery	[NASA-CASE-MFS-25842-2]	c 37	N86-20788
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Power factor control system for ac induction motors	[NASA-CASE-MFS-23988-1]	c 33	N81-27395	Pulsed thyristor trigger control circuit	[NASA-CASE-MFS-25616-1]	c 33	N84-16455	Cryogenic insulation strength and bond tester	[NASA-CASE-MFS-25910-1]	c 39	N86-20841
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Biocentrifuge system capable of exchanging specimen cages while in operational mode	[NASA-CASE-MFS-23825-1]	c 51	N81-32829	Space probe/satellite ejection apparatus for spacecraft	[NASA-CASE-MFS-15429-1]	c 18	N84-22609	Containerless high purity pulling process and apparatus for glass fiber	[NASA-CASE-MFS-25905-2]	c 31	N86-21718
Motor power factor controller with a reduced voltage starter	[NASA-CASE-MFS-25586-1]	c 33	N82-11360	Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber	[NASA-CASE-MFS-256704-1]	c 33	N84-22884	Automated weld torch guidance control system	[NASA-CASE-MFS-25807-2]	c 37	N86-21850
Method for retarding dye fading during archival storage of developed color photographic film	[NASA-CASE-MFS-23250-1]	c 35	N82-11432	Three phase power factor controller	[NASA-CASE-MFS-25535-2]	c 33	N84-22885	Multispectral glancing incidence X-ray telescope	[NASA-CASE-MFS-28013-1]	c 89	N86-22459
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[NASA-CASE-NPO-16038-1] c 37 N86-19605  
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orthogonal relationship between the probe laser and  
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[NASA-CASE-NPO-16171-1-CU] c 04 N86-27270  
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[NASA-CASE-NPO-15813-2] c 76 N87-15882  
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[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159  
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[NASA-CASE-NPO-16256-1] c 32 N87-21207  
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[NASA-CASE-NPO-15617-1] c 35 N87-21304  
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[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334  
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[NASA-CASE-NPO-15982-1] c 60 N87-21591  
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[NASA-CASE-NPO-16061-1-CU] c 72 N87-21660  
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lifetime in a direct band-gap semiconductor  
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[NASA-CASE-NPO-16558-1-CU] c 74 N87-23259  
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Sample levitation and melt in microgravity  
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Antimultipath communication by injecting tone into null  
in signal spectrum  
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[NASA-CASE-NPO-17058-1-CU] c 62 N87-25803

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 [NASA-CASE-NPO-17108-1-CU] c 33 N87-27926  
 Method and apparatus for enhancing laser absorption sensitivity  
 [NASA-CASE-NPO-16567-1-CU] c 36 N87-28006  
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 [NASA-CASE-NPO-16764-1-CU] c 33 N88-14270  
 Tailorable infrared sensing device with strain layer superlattice structure  
 [NASA-CASE-NPO-16607-1-CU] c 76 N88-14836  
 Method of evaporation  
 [NASA-CASE-NPO-15609-2] c 25 N88-23846  
 Krypton based adsorption type cryogenic refrigerator  
 [NASA-CASE-NPO-17334-1-CU] c 31 N88-23917  
 Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
 [NASA-CASE-NPO-17249-1-CU] c 32 N88-23924  
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 [NASA-CASE-NPO-16888-1-CU] c 33 N88-23937  
 Cryogenic regenerator including saran-carbon heat conduction matrix  
 [NASA-CASE-NPO-17291-1-CU] c 34 N88-23946  
 Real time pipelined system for forming the sum of products in the processing of video data  
 [NASA-CASE-NPO-16462-1-CU] c 60 N88-24169  
 Single mode levitation and translation  
 [NASA-CASE-NPO-16675-1-CU] c 71 N88-24241  
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 Isotope separation using tuned laser and electron beam  
 [NASA-CASE-NPO-16907-1-CU] c 25 N88-24732  
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 [NASA-CASE-NPO-16985-1-CU] c 31 N88-24814  
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 [NASA-CASE-NPO-17278-1-CU] c 31 N88-24818  
 Apparatus for using a time interval counter to measure frequency stability  
 [NASA-CASE-NPO-17325-1-CU] c 32 N88-24846  
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 [NASA-CASE-NPO-16402-2] c 33 N88-24862  
 Timing control system  
 [NASA-CASE-NPO-16882-1-CU] c 33 N88-24863  
 A universal computer control system for motors  
 [NASA-CASE-NPO-17134-1-CU] c 33 N88-24864  
 Noncontact temperature pattern measuring device  
 [NASA-CASE-NPO-17024-1-CU] c 35 N88-24943  
 Atmospheric autorotating imaging device  
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 Articulated suspension system  
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 Trochoidal analysis of scattered electrons in a merged electron-ion beam  
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 Low-loss, high-isolation, fiber-optic isolator  
 [NASA-CASE-NPO-17207-1-CU] c 74 N88-25304  
 Real-time image difference detection using a polarization rotation spacial light modulator  
 [NASA-CASE-NPO-17144-1-CU] c 74 N88-25305  
 Improved properties of SiGe/GaP alloys  
 [NASA-CASE-NPO-17259-1-CU] c 76 N88-25358  
 Data volume reduction for imaging radar polarimetry  
 [NASA-CASE-NPO-17184-1-CU] c 32 N88-26541  
 Low noise cryogenic dielectric resonator oscillator  
 [NASA-CASE-NPO-17157-1-CU] c 33 N88-26596  
 A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
 [NASA-CASE-NPO-17280-1-CU] c 17 N88-27220  
 Method for Viterbi decoding of large constraint length convolutional codes  
 [NASA-CASE-NPO-17310-1-CU] c 17 N88-28946  
 Digital phase-lock loop having an estimator and predictor of error  
 [NASA-CASE-NPO-17196-1-CU] c 32 N88-29076  
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 [NASA-CASE-NPO-17233-1-CU] c 33 N88-29095  
 Thermocouple for heating and cooling of memory metal actuators  
 [NASA-CASE-NPO-17068-1-CU] c 35 N88-29151  
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 [NASA-CASE-NPO-16116-2] c 60 N88-29310  
 Doppler-corrected differential detection system  
 [NASA-CASE-NPO-16987-1-CU] c 32 N88-30001  
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 [NASA-CASE-NPO-17085-1-CU] c 31 N89-12785  
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 [NASA-CASE-NPO-17282-1-CU] c 36 N89-12856

Stabilization and oscillation of an acoustically levitated object  
 [NASA-CASE-NPO-16896-1-CU] c 71 N89-13236  
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 [NASA-CASE-NPO-17203-1-CU] c 34 N89-13728  
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 [NASA-CASE-NPO-17436-1-CU] c 35 N89-13764  
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 [NASA-CASE-NPO-16766-1-CU] c 37 N89-13785  
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 [NASA-CASE-NPO-17453-1-CU] c 37 N89-13787  
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 [NASA-CASE-NPO-17140-1-CU] c 74 N89-14077  
 Remotely controllable real-time optical processor  
 [NASA-CASE-NPO-16750-1-CU] c 74 N89-14078  
 Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
 [NASA-CASE-NPO-17399-1-CU] c 76 N89-14120  
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 [NASA-CASE-NPO-17143-1-CU] c 31 N89-14351  
 Controlled sample orientation and rotation in an acoustic levitator  
 [NASA-CASE-NPO-17086-1-CU] c 35 N89-14422  
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**Wallops Flight Center, Wallops Island, VA.**  
 Thin film strain transducer  
 [NASA-CASE-WLP-10055-1] c 35 N84-28015  
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**Western Operations Office, Santa Monica, CA.**  
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 [NASA-CASE-XNP-04731] c 15 N71-24042  
**National Bureau of Standards, Boulder, CO.**  
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 [NASA-CASE-XLE-00688] c 14 N70-41330  
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 [NASA-CASE-KSC-10698] c 07 N73-20175  
**National Research Corp., Cambridge, MA.**  
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 [NASA-CASE-XGS-07752] c 14 N73-30390  
 Ultrahigh vacuum measuring ionization gauge  
 [NASA-CASE-XLA-05087] c 14 N73-30391  
 Apparatus for absolute pressure measurement  
 [NASA-CASE-LAR-10000] c 14 N73-30394  
 Ultrahigh vacuum gauge having two collector electrodes  
 [NASA-CASE-LAR-02743] c 14 N73-32324  
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 [NASA-CASE-XNP-10007-1] c 46 N74-23068  
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**National Science Foundation, Washington, DC.**  
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 [NASA-CASE-GSC-12237-1] c 36 N80-14384  
**Nevada Univ. System, Reno.**  
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 [NASA-CASE-MFS-25631-1] c 34 N84-12406  
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 [NASA-CASE-GSC-12046-1] c 52 N79-14750  
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 [NASA-CASE-MFS-07369] c 15 N71-20443  
 Propellant mass distribution metering apparatus Patent  
 [NASA-CASE-NPO-10185] c 10 N71-26339  
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 [NASA-CASE-MFS-18495] c 15 N72-11385  
 Hydrogen fire detection system with logic circuit to analyze the spectrum of temporal variations of the optical spectrum  
 [NASA-CASE-MFS-13130] c 10 N72-17173  
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 [NASA-CASE-XMS-04318] c 15 N69-27871  
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 [NASA-CASE-XMS-06329-1] c 15 N71-20441  
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 [NASA-CASE-XGS-01143] c 31 N71-15647  
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 [NASA-CASE-XMS-03613] c 31 N71-16346  
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 [NASA-CASE-XMS-08589-1] c 09 N71-20569  
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 [NASA-CASE-XMS-03745] c 15 N71-21076  
 Tube dimpling tool Patent  
 [NASA-CASE-XMS-06876] c 15 N71-21536  
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 Method and apparatus for varying thermal conductivity Patent  
 [NASA-CASE-XNP-05524] c 33 N71-24876  
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 [NASA-CASE-XMS-04826] c 28 N71-28849  
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 [NASA-CASE-XNP-01310] c 33 N71-28852  
 Propellant tank pressurization system Patent  
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 [NASA-CASE-XNP-01855] c 15 N71-28937  
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 [NASA-CASE-HQN-00938] c 33 N71-29053  
**North American Aviation, Inc., Los Angeles, CA.**  
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 [NASA-CASE-XFR-08403] c 05 N71-11202  
**North American Aviation, Inc., Torrance, CA.**  
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 [NASA-CASE-XMF-02307] c 14 N71-10779  
**North American Aviation, Inc., Woodland Hills, CA.**  
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 [NASA-CASE-XGS-01286-1] c 37 N79-33469  
**North American Philips Co., Inc., Briarcliff Manor, NY.**  
 Linear magnetic bearings  
 [NASA-CASE-GSC-12582-2] c 37 N85-20337  
**North American Rockwell Corp., Canoga Park, CA.**  
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 [NASA-CASE-MFS-18100] c 15 N72-11390  
 Observation window for a gas confining chamber  
 [NASA-CASE-NPO-10890] c 11 N73-12265  
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 [NASA-CASE-NPO-10985] c 14 N73-20478  
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 [NASA-CASE-MFS-21919-1] c 10 N73-25243  
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 [NASA-CASE-GSC-11434-1] c 34 N74-27859  
**North American Rockwell Corp., Downey, CA.**  
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 [NASA-CASE-MSC-13047-1] c 31 N71-25434  
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 [NASA-CASE-XMF-02221] c 18 N71-27170  
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 [NASA-CASE-MSC-12357] c 15 N73-12489  
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 [NASA-CASE-MSC-15567-1] c 33 N73-16918  
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 [NASA-CASE-LAR-10634-1] c 37 N74-18123  
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**North American Rockwell Corp., El Segundo, CA.**  
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 [NASA-CASE-MSC-15158-1] c 14 N72-17325  
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 [NASA-CASE-MFS-16570-1] c 05 N73-32013  
**North Carolina State Univ., Raleigh.**  
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 [NASA-CASE-LAR-10894-1] c 18 N73-14584  
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 [NASA-CASE-LAR-11902-1] c 27 N78-17206  
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- Shock tube bypass piston tunnel  
[NASA-CASE-NPO-12109] c 11 N72-22245
- Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040

## Northrop Nortronics, Palos Verdes Peninsula, CA.

- Method of making dry electrodes  
[NASA-CASE-FRC-10029-2] c 05 N72-25121
- Valve seat  
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- Method of evaluating moisture barrier properties of encapsulating materials Patent  
[NASA-CASE-NPO-10051] c 18 N71-24934

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- Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618
- Gas low pressure low flow rate metering system Patent  
[NASA-CASE-FRC-10022] c 12 N71-26546
- Method of removing insulated material from insulated wires  
[NASA-CASE-FRC-10038] c 15 N72-20444

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- Synthesis of polymeric schiff bases by schiff-base exchange reactions Patent  
[NASA-CASE-XMF-08651] c 06 N71-11236
- Direct synthesis of polymeric schiff bases from two amines and two aldehydes Patent  
[NASA-CASE-XMF-08655] c 06 N71-11239
- Azine polymers and process for preparing the same Patent  
[NASA-CASE-XMF-08656] c 06 N71-11242
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[NASA-CASE-XMF-08652] c 06 N71-11243
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## Oakland Univ., Rochester, MI.

- Optical process for producing classification maps from multispectral data  
[NASA-CASE-MS-C-14472-1] c 43 N77-10584
- Interactive color display for multispectral imagery using correlation clustering  
[NASA-CASE-MS-C-16253-1] c 32 N79-20297

## Occidental Research Corp., La Verne, CA.

- Process for preparing higher oxides of the alkali and alkaline earth metals  
[NASA-CASE-ARC-10992-1] c 26 N78-32229

## Ohio State Univ., Columbus.

- Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c 32 N76-15330
- Distributed-switch Dicke radiometers  
[NASA-CASE-GSC-12219-1] c 35 N80-18359
- Almond test body  
[NASA-CASE-LAR-13747-1] c 32 N88-24845

## Old Dominion Univ., Norfolk, VA.

- Instrumentation for measuring aircraft noise and sonic boom  
[NASA-CASE-LAR-11476-1] c 07 N76-27232
- Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867
- High-temperature microphone system  
[NASA-CASE-LAR-12375-1] c 32 N79-24203
- Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968

- Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985

## Oregon Univ., Portland.

- Method for separating biological cells  
[NASA-CASE-MFS-23883-1] c 51 N80-16715

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- Water system virus detection  
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- Optical alignment system Patent  
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## Pansura Corp., Pennsauken, NJ.

- Method of forming transparent films of ZnO  
[NASA-CASE-FRC-10019] c 15 N73-12487

## PCR, Inc., Gainesville, FL.

- Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016

## Peninsular ChemResearch, Inc., Gainesville, FL.

- Hydroxy terminated perfluoro ethers Patent  
[NASA-CASE-NPO-10768] c 06 N71-27254
- Perfluoro polyether acyl fluorides  
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- Polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c 06 N72-27144
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[NASA-CASE-NPO-10767-2] c 06 N72-27151
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## Pennsylvania State Univ., University Park.

- Process for the preparation of polycarboranylphosphazenes  
[NASA-CASE-ARC-11176-2] c 27 N81-27271
- Carboranylcyclotriphosphazenes and their polymers  
[NASA-CASE-ARC-11176-1] c 27 N82-18389
- Carboranyl-methylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750

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- Frequency modulation demodulator threshold extension device Patent  
[NASA-CASE-MS-C-12165-1] c 07 N71-33696

## Philco-Ford Corp., Newport Beach, CA.

- Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c 03 N72-25021

## Philco-Ford Corp., Palo Alto, CA.

- Composite antenna feed  
[NASA-CASE-GSC-11046-1] c 07 N73-28013
- Amplitude steered array  
[NASA-CASE-GSC-11446-1] c 33 N74-20860

## Phoenix Corp., McLean, VA.

- External bulb variable volume maser  
[NASA-CASE-GSC-12334-1] c 36 N79-14362
- Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065

## Pittsburgh Univ., PA.

- Method and device for the detection of phenol and related compounds  
[NASA-CASE-LEW-12513-1] c 25 N79-22235

## Planning Research Corp., McLean, VA.

- Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310

## Pratt and Whitney Aircraft, East Hartford, CT.

- Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062
- Vibration damping system Patent  
[NASA-CASE-XMS-01620] c 23 N71-15673
- Vapor pressure measuring system and method Patent  
[NASA-CASE-XMS-01618] c 14 N71-20741
- Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022

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## Quantum Dynamics Co., Inc., Tarzana, CA.

- Respiratory analysis system and method  
[NASA-CASE-MS-C-13436-1] c 05 N73-32015

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## Radiation, Inc., Melbourne, FL.

- Remote platform power conserving system  
[NASA-CASE-GSC-11182-1] c 15 N75-13007

## Radiation Instrument Development Lab., Inc., Melrose Park, IL.

- High speed binary to decimal conversion system Patent  
[NASA-CASE-XGS-01230] c 08 N71-19544

## Radiation Systems, Inc., McLean, VA.

- Monopulse tracking system Patent  
[NASA-CASE-XGS-01155] c 10 N71-21483

## Radio Corp. of America, Lancaster, PA.

- Bonding graphite with fused silver chloride  
[NASA-CASE-XGS-00963] c 15 N69-39735

## Radio Corp. of America, New York.

- Water cooled contactor for anode in carbon arc mechanism  
[NASA-CASE-XMS-03700] c 15 N69-24266
- Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c 09 N69-24318
- Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c 07 N69-24323
- Radiation resistant silicon semiconductor devices Patent  
[NASA-CASE-XGS-07801] c 09 N71-12513
- GaAs solar detector using manganese as a doping agent Patent  
[NASA-CASE-XNP-01328] c 26 N71-18064

- Thermocouple assembly Patent  
[NASA-CASE-XNP-01659] c 14 N71-23039
- Method of erasing target material of a vidicon tube or the like Patent  
[NASA-CASE-XNP-06028] c 09 N71-23189
- Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-XNP-01068] c 10 N71-28739

## Radio Corp. of America, Princeton, NJ.

- Connector strips-positive, negative and T tabs  
[NASA-CASE-XGS-01395] c 03 N69-21539
- Solar cell including second surface mirrors Patent  
[NASA-CASE-NPO-10109] c 03 N71-11049
- Collapsible reflector Patent  
[NASA-CASE-XMS-03454] c 09 N71-20658
- Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027

- Method of electrolytically binding a layer of semiconductors together Patent  
[NASA-CASE-XNP-01959] c 26 N71-23043
- Method and apparatus for distillation of liquids Patent  
[NASA-CASE-XNP-08124] c 15 N71-27184

- Maximum power point tracker Patent  
[NASA CASE GSC 10376-1] c 14 N71-27407

- Method of changing the conductivity of vapor deposited gallium arsenide by the introduction of water into the vapor deposition atmosphere Patent  
[NASA-CASE-XNP-01961] c 26 N71-29156

- Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948

- Target acquisition antenna  
[NASA-CASE-GSC-10064-1] c 10 N72-22235

- Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c 06 N73-13129

- Hermetically sealed semiconductor  
[NASA-CASE-GSC-10791-1] c 15 N73-14469

- Thermal flux transfer system  
[NASA-CASE-NPO-12070-1] c 28 N73-32606

- Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly  
[NASA-CASE-GSC-11560-1] c 33 N74-20861

- Frequency measurement by coincidence detection with standard frequency  
[NASA-CASE-MS-C-14649-1] c 33 N76-16331

- Means for growing ribbon crystals without subjecting the crystals to thermal shock-induced strains  
[NASA-CASE-NPO-14298-1] c 76 N80-32244

- Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389

- Television camera video level control system  
[NASA-CASE-GSC-18578-1] c 32 N85-21427

## RAND Corp., Santa Monica, CA.

- Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900

## Raymond Engineering Lab., Inc., Middletown, CT.

- Synchronous servo loop control system Patent  
[NASA-CASE-XNP-03744] c 10 N71-20448

## Raytheon Co., Sudbury, MA.

- Laser Doppler system for measuring three dimensional vector velocity Patent  
[NASA-CASE-MFS-20386] c 21 N71-19212

- Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c 36 N75-15028

## RCA Labs., Princeton, NJ.

- Solar cell with improved N-region contact and method of forming the same  
[NASA-CASE-NPO-14205-1] c 44 N79-31752

## RCA Service Co., Inc., Camden, NJ.

- Apparatus for inspecting microfilm Patent  
[NASA-CASE-MFS-20240] c 14 N71-26788

## Rensselaer Polytechnic Inst., Troy, NY.

- Coincidence apparatus for detecting particles  
[NASA-CASE-XLA-07813] c 14 N72-17328

- Dual acting slit control mechanism  
[NASA-CASE-LAR-11370-1] c 35 N80-28686

## Research Triangle Inst., Durham, NC.

- Semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980] c 09 N69-27422

## Rochester General Hospital, NY.

- Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744

## Rochester Univ., NY.

- Concave grating spectrometer Patent  
[NASA-CASE-XGS-01036] c 14 N70-40003

## Rockwell International Corp., Canoga Park, CA.

- Frequency to analog converter Patent  
[NASA-CASE-XNP-07040] c 08 N71-12500

- Load cell protection device Patent  
[NASA-CASE-XMS-06782] c 32 N71-15974

- Thermobulb mount Patent  
[NASA-CASE-NPO-10158] c 33 N71-16356

- Laminar flow enhancement Patent  
[NASA-CASE-NPO-10122] c 12 N71-17631



Temperature sensitive flow regulator Patent  
[NASA-CASE-MFS-14259] c 15 N71-19213

Hydrogen leak detection device Patent  
[NASA-CASE-MFS-11537] c 14 N71-20442

Technique of elbow bending small jacketed transfer lines Patent  
[NASA-CASE-XNP-10475] c 15 N71-24679

Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372

Locking device for turbine rotor blades Patent  
[NASA-CASE-XNP-00816] c 28 N71-28928

Laser camera and diffusion filter therefore Patent  
[NASA-CASE-NPO-10417] c 16 N71-33410

Hydrazinium nitroformate propellant stabilized with nitroguanidine  
[NASA-CASE-NPO-12000] c 27 N72-25699

Hydrazinium nitroformate propellant with saturated polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c 27 N73-16764

Novel polymers and method of preparing same  
[NASA-CASE-NPO-10998-1] c 06 N73-32029

Internally supported flexible duct joint  
[NASA-CASE-MFS-19193-1] c 37 N75-19686

Brazing alloy binder  
[NASA-CASE-XMF-05868] c 26 N75-27125

Brazing alloy composition  
[NASA-CASE-XMF-06053] c 26 N75-27126

Brazing alloy  
[NASA-CASE-XNP-03878] c 26 N75-27127

Method and apparatus for vibration analysis utilizing the Mossbauer effect  
[NASA-CASE-XMF-05882] c 35 N75-27329

Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236

Thrust measurement  
[NASA-CASE-XMS-05731] c 35 N75-29382

Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c 37 N76-14460

Device for installing rocket engines  
[NASA-CASE-MFS-19220-1] c 20 N76-22296

Accumulator  
[NASA-CASE-MFS-19287-1] c 34 N77-30399

Laser extensometer  
[NASA-CASE-MFS-19259-1] c 36 N78-14380

Stable superconducting magnet  
[NASA-CASE-XMF-05373-1] c 33 N79-21264

**Rockwell International Corp., Downey, CA.**  
Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c 37 N76-21554

Flanged major modular assembly jig  
[NASA-CASE-MSC-19372-1] c 39 N76-31562

Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MFS-16609-3] c 03 N76-32140

Window defect planar mapping technique  
[NASA-CASE-MSC-19442-1] c 74 N77-10899

Mechanical sequencer  
[NASA-CASE-MSC-19536-1] c 37 N77-22482

Load regulating latch  
[NASA-CASE-MSC-19535-1] c 37 N77-32499

Adjustable securing base  
[NASA-CASE-MSC-19666-1] c 37 N78-17383

Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c 26 N78-24333

Flexible pile thermal barrier insulator  
[NASA-CASE-MSC-19568-1] c 34 N78-25350

Variable contour securing system  
[NASA-CASE-MSC-16270-1] c 37 N78-27423

Multi-purpose wind tunnel reaction control model block  
[NASA-CASE-MSC-19706-1] c 09 N78-31129

Sequencing device utilizing planetary gear set  
[NASA-CASE-MSC-19514-1] c 37 N79-20377

System for automatically switching transformer coupled lines  
[NASA-CASE-MSC-16697-1] c 33 N79-28415

Pressure limiting propellant actuating system  
[NASA-CASE-MSC-18179-1] c 20 N80-18097

Floating nut retention system  
[NASA-CASE-MSC-16938-1] c 37 N80-23653

Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492

Coaxial phased array antenna  
[NASA-CASE-MSC-16800-1] c 32 N81-14187

Installing fiber insulation  
[NASA-CASE-MSC-16973-1] c 37 N81-14317

Thermal barrier pressure seal  
[NASA-CASE-MSC-18134-1] c 37 N81-15363

Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MSC-18606-1] c 32 N82-11336

Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491

High temperature penetrator assembly with bayonet plug and ramp-activated lock  
[NASA-CASE-MSC-18526-1] c 37 N82-24494

A method and technique for installing light-weight fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-18934-3] c 24 N82-26387

Spiral slotted phased antenna array  
[NASA-CASE-MSC-18532-1] c 32 N82-27558

Attachment system for silica tiles  
[NASA-CASE-MSC-18741-1] c 27 N82-29456

Method for repair of thin glass coatings  
[NASA-CASE-KSC-11097-1] c 27 N82-33520

Degassing and mixing apparatus for liquids  
[NASA-CASE-MSC-18936-1] c 35 N83-29652

Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482

Method and technique for installing light-weight, fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-16934-3] c 24 N84-16262

Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084

Portable 90 degree proof loading device  
[NASA-CASE-MSC-20250-1] c 35 N86-19581

**Rockwell International Corp., Houston, TX.**  
Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673

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Length mode piezoelectric ultrasonic transducer for inspection of solid objects  
[NASA-CASE-MSC-19672-1] c 38 N79-14398

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CAM controlled retractable door latch  
[NASA-CASE-MSC-20304-1] c 37 N82-31690

Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756

**Roph Corp., Chula Vista, CA.**  
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[NASA-CASE-NPO-11036] c 15 N72-24522

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[NASA-CASE-XMS-10269] c 05 N71-24147

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[NASA-CASE-XMS-00907] c 02 N70-41630

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[NASA-CASE-XNP-02092] c 15 N70-42033

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[NASA-CASE-ARC-11154-1] c 25 N80-23383

Indomethacin-antihistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-2] c 52 N81-14613

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[NASA-CASE-ARC-11118-1] c 52 N81-29764

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[NASA-CASE-ARC-11245-1] c 28 N82-18401

Preparation of crosslinked 1,2,4-oxadiazole polymer  
[NASA-CASE-ARC-11253-2] c 27 N82-24338

Fire extinguishant materials  
[NASA-CASE-ARC-11252-1] c 25 N83-36118

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[NASA-CASE-ARC-11418-1] c 24 N84-11213

Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744

Perfluoro (Imidoylamidine) diamidines  
[NASA-CASE-ARC-11402-3] c 23 N86-21582

**Sanders Associates, Inc., Nashua, NH.**  
Increasing efficiency of switching type regulator circuits Patent  
[NASA-CASE-XMS-09352] c 09 N71-23316

**Sandia Labs., Albuquerque, NM.**  
Fluid sampling device  
[NASA-CASE-GSC-12143-1] c 35 N77-32456

**Santa Barbara Research Center, Goleta, CA.**  
Scanner  
[NASA-CASE-GSC-12032-2] c 43 N82-13465

**Santa Clara Univ., CA.**  
Reversed cow flap inlet thrust augmentor  
[NASA-CASE-ARC-10754-1] c 07 N75-24736

System for measuring Reynolds in a turbulently flowing fluid  
[NASA-CASE-ARC-10755-2] c 34 N76-27517

System for measuring three fluctuating velocity components in a turbulently flowing fluid  
[NASA-CASE-ARC-10974-1] c 34 N77-27345

Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884

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[NASA-CASE-XLA-04143] c 15 N71-17687

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[NASA-CASE-XLA-01494] c 15 N71-24164

**Science Applications, Inc., La Jolla, CA.**  
Vitra-violet process for producing flame resistant polyamides and products produced thereby  
[NASA-CASE-MSC-16074-1] c 27 N80-26446

**Scott Aviation Corp., Lancaster, NY.**  
Self-contained breathing apparatus  
[NASA-CASE-MSC-14733-1] c 54 N76-24900

**Serv-Air, Inc., Edwards, CA.**  
Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599

**Serv-Air, Inc., Houston, TX.**  
Stator rotor tools  
[NASA-CASE-MSC-16000-1] c 37 N78-24544

**Sheldahl Co., Northfield, MN.**  
Method and apparatus for preparing multiconductor cable with flat conductors  
[NASA-CASE-MFS-10946-1] c 31 N79-21226

Edge coating of flat wires  
[NASA-CASE-XMF-05757-1] c 31 N79-21227

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[NASA-CASE-LAR-11900-1] c 37 N79-14382

Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947

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[NASA-CASE-MSC-20258-1] c 60 N84-28492

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[NASA-CASE-KSC-10647-1] c 10 N72-31273

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[NASA-CASE-XMF-00701] c 09 N70-40272

**Smith (Stephen F.), Knoxville, TN.**  
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[NASA-CASE-GSC-12804-1] c 33 N86-20668

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[NASA-CASE-HON-10654-1] c 16 N73-13489

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[NASA-CASE-HON-10790-1] c 36 N74-11313

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Biomedical radiation detecting probe Patent  
[NASA-CASE-XMS-01177] c 05 N71-19440

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Process for utilizing low-cost graphite substrates for polycrystalline solar cells  
[NASA-CASE-GSC-12022-2] c 44 N78-24609

**Southern Research Inst., Birmingham, AL.**  
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[NASA-CASE-XMF-02526-1] c 27 N79-21190

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[NASA-CASE-WLP-10055-1] c 35 N84-28015

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**Space Sciences, Inc., Waltham, MA.**  
Doppler shift system  
[NASA-CASE-HON-10740-1] c 72 N74-19310

**Space Technology Labs., Inc., Redondo Beach, CA.**  
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[NASA-CASE-XGS-00823] c 10 N71-15910

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[NASA-CASE-XLE-00820] c 14 N71-16014

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[NASA-CASE-XGS-00824] c 15 N71-16078

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[NASA-CASE-XLE-02038] c 09 N71-16086

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[NASA-CASE-XNP-00826] c 03 N71-20895

Prestressed refractory structure Patent  
[NASA-CASE-XNP-02888] c 18 N71-21068

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[NASA-CASE-XGS-05441] c 10 N71-22962

Fluid lubricant system Patent  
[NASA-CASE-XNP-03972] c 15 N71-23048

Compensating bandwidth switching transients in an amplifier circuit Patent  
[NASA-CASE-XNP-01107] c 10 N71-28859

**Spacelabs, Inc., Van Nuys, CA.**

Peak polarity selector Patent  
[NASA-CASE-FRC-10010] c 10 N71-24862  
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[NASA-CASE-FRC-10012] c 14 N72-17329

**Spaco, Inc., Huntsville, AL.**

Sight switch using an infrared source and sensor Patent  
[NASA-CASE-XMF-03934] c 09 N71-22985  
Method and device for detecting voids in low density material Patent  
[NASA-CASE-MFS-20044] c 14 N71-28993

**Spectra-Physics, Inc., Mountain View, CA.**

Optically pumped resonance magnetometer for determining vectoral components in a spatial coordinate system Patent  
[NASA-CASE-XGS-04879] c 14 N71-20428

**Spectrolab, Inc., Sylmar, CA.**

Ultraviolet filter  
[NASA-CASE-XNP-02340] c 23 N69-24332  
Central spar and module joint Patent  
[NASA-CASE-XNP-02341] c 15 N71-21531  
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[NASA-CASE-NPO-10575] c 03 N72-25019

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[NASA-CASE-XMS-05307] c 09 N69-24330

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[NASA-CASE-XGS-03058] c 10 N71-19547

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[NASA-CASE-MFS-14017] c 14 N71-26627  
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[NASA-CASE-MFS-20068] c 07 N71-27191  
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[NASA-CASE-MFS-20453] c 15 N71-29133  
Frequency division multiplex technique  
[NASA-CASE-KSC-10521] c 07 N73-20176  
Device for configuring multiple leads  
[NASA-CASE-MFS-22133-1] c 33 N74-26977  
System for enhancing tool-exchange capabilities of a portable wrench  
[NASA-CASE-MFS-22283-1] c 37 N75-33395  
Remotely operable articulated manipulator  
[NASA-CASE-MFS-22707-1] c 37 N76-15457  
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[NASA-CASE-MFS-22458-1] c 44 N77-10635  
Notch filter  
[NASA-CASE-MFS-23303-1] c 32 N77-18307  
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[NASA-CASE-MFS-22234-1] c 32 N79-10264  
Anastigmatic three-mirror telescope  
[NASA-CASE-MFS-23675-1] c 89 N79-10969

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[NASA-CASE-XLA-04897] c 15 N72-22482

**Stanford Research Inst., Menlo Park, CA.**

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[NASA-CASE-XNP-03263] c 09 N71-18843  
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[NASA-CASE-XNP-02251] c 12 N71-20896  
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[NASA-CASE-NPO-10242] c 09 N71-24803  
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[NASA-CASE-NPO-10234] c 06 N72-17094

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[NASA-CASE-ARC-10042-2] c 10 N72-11256  
Multiloop RC active filter apparatus having low parameter sensitivity with low amplifier gain  
[NASA-CASE-ARC-10192] c 09 N72-21245  
Spacecraft attitude control method and apparatus  
[NASA-CASE-HQN-10439] c 21 N72-21624  
Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c 36 N75-19653  
Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251  
Reaction cured glass and glass coatings  
[NASA-CASE-ARC-11051-1] c 27 N78-32260  
Fibrous refractory composite insulation  
[NASA-CASE-ARC-11169-1] c 24 N79-24062  
Controller arm for a remotely related slave arm  
[NASA-CASE-ARC-11052-1] c 37 N79-28551  
High temperature glass thermal control structure and coating  
[NASA-CASE-ARC-11164-1] c 44 N83-34448  
Planar oscillatory stirring apparatus  
[NASA-CASE-MFS-26002-1-CU] c 35 N86-26598

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[NASA-CASE-XAC-05462-2] c 10 N72-17171

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[NASA-CASE-XMS-02952] c 18 N71-20742

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[NASA-CASE-MFS-20125] c 16 N72-13437  
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[NASA-CASE-XGS-04047-2] c 03 N72-11062

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[NASA-CASE-LAR-10907-1] c 35 N76-29551

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[NASA-CASE-MFS-20586] c 15 N71-17686

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[NASA-CASE-LEW-12989-1] c 37 N82-12442

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[NASA-CASE-MFS-20774] c 14 N73-19420

**Temple Univ. Research Inst., Philadelphia, PA.**

Barium release system  
[NASA-CASE-LAR-10670-1] c 06 N73-30097

Rocket having barium release system to create ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c 15 N74-27360

**Texas A&M Univ., College Station.**

Apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
[NASA-CASE-MFS-23315-1] c 76 N78-24950

**Texas Instruments, Inc., Dallas.**

Integrated circuit including field effect transistor and cermet resistor  
[NASA-CASE-GSC-10835-1] c 09 N72-33205

Apparatus for measuring semiconductor device resistance  
[NASA-CASE-NPO-14424-1] c 33 N80-32650

**Texas Technological Univ., Lubbock.**

Insulated electrocardiographic electrodes  
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**Thiokol Chemical Corp., Bristol, PA.**

Casting propellant in rocket engine  
[NASA-CASE-LAR-11995-1] c 28 N77-10213

**Thiokol Corp., Brigham City, UT.**

Process for the leaching of AP from propellant  
[NASA-CASE-NPO-14109-1] c 28 N80-23471

Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119

**Thompson Ramo Wooldridge, Inc., Cleveland, OH.**

Electromagnetic radiation energy arrangement  
[NASA-CASE-WOO-00428-1] c 32 N79-19186

**Tisdale (Henry F., Sr.), Treasure Island, FL.**

Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106

**Trans-Sonics, Inc., Lexington, MA.**

Capacitive tank gaging apparatus being independent of liquid distribution  
[NASA-CASE-MFS-21629] c 14 N72-22442

**TransTechnology Corp., Canyon Country, CA.**

Slide release mechanism  
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**Trident Engineering Associates, Inc., Annapolis, MD.**

Spectroscope equipment using a slender cylindrical reflector as a substitute for a slit Patent  
[NASA-CASE-XGS-08269] c 23 N71-26206

**TRW Defense and Space Systems Group, Redondo Beach, CA.**

Optical crystal temperature gauge with fiber optic connections  
[NASA-CASE-MSC-18627-1] c 74 N82-30071

**TRW Equipment Labs., Cleveland, OH.**

Pulsed energy power system Patent  
[NASA-CASE-MSC-13112] c 03 N71-11057

**TRW, Inc., Redondo Beach, CA.**

Method of and device for determining the characteristics and flux distribution of micrometeorites  
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Reinforced structural plastics  
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Heat pipe with dual working fluids  
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Multi-chamber controllable heat pipe  
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Gas ion laser construction for electrically isolating the pressure gauge thereof  
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Wobble gear drive mechanism  
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Apparatus for handling micron size range particulate material  
[NASA-CASE-NPO-10151] c 37 N78-17386

Solar cell module assembly jig  
[NASA-CASE-XGS-00829-1] c 44 N79-19447

Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314

Moisture content and gas sampling device  
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**TRW Systems, Redondo Beach, CA.**

Electromechanical actuator  
[NASA-CASE-XNP-05975] c 15 N69-23185

Control valve and co-axial variable injector Patent  
[NASA-CASE-XNP-09702] c 15 N71-17654

Multiple orifice throttle valve Patent  
[NASA-CASE-XNP-09698] c 15 N71-18580

Semitoroidal diaphragm cavitating valve Patent  
[NASA-CASE-XNP-09704] c 12 N71-18615

Electrohydrodynamic control valve Patent  
[NASA-CASE-NPO-10416] c 12 N71-27332

**TRW Systems Group, Redondo Beach, CA.**

Ablative resin Patent  
[NASA-CASE-XLE-05913] c 33 N71-14032

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[NASA-CASE-GSC-10306-1] c 15 N71-24694

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Wide range analog-to-digital converter with a variable gain amplifier  
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Failsafe multiple transformer circuit configuration  
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Weld-bonded titanium structures  
[NASA-CASE-LAR-11549-1] c 37 N77-11397

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[NASA-CASE-GSC-11998-1] c 34 N77-32413

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Digital numerically controlled oscillator  
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Self-calibrating threshold detector  
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**Tyco Labs., Inc., Waltham, MA.**

- Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
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- Segmenting lead telluride-silicon germanium thermoelements Patent  
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- Electrocatalyst for oxygen reduction  
[NASA-CASE-HQN-10537-1] c 06 N72-10138

**U****Ultrasystems, Inc., Irvine, CA.**

- Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MS-C-14903-1] c 27 N78-32256
- Compound oxidized styrylphosphine  
[NASA-CASE-MS-C-14903-2] c 27 N80-10358
- Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MS-C-14903-3] c 27 N80-24438

**Unified Science Associates, Inc., Pasadena, CA.**

- Method of producing crystalline materials  
[NASA-CASE-NPO-10440] c 15 N72-21466

**Union Carbide Corp., New York.**

- Laser apparatus for removing material from rotating objects Patent  
[NASA-CASE-MFS-11279] c 16 N71-20400

**United Aircraft Corp., East Hartford, CT.**

- Supporting and protecting device Patent  
[NASA-CASE-XMF-00580] c 11 N70-35383
- Spherical tank gauge Patent  
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- Tertiary flow injection thrust vectoring system Patent  
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- Restraint torso for a pressurized suit  
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- Protective garment ventilation system  
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- Emergency space-suit helmet  
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- Thermal garment  
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- High modulus invert analog glass compositions containing beryllia  
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- Non-toxic invert analog glass compositions of high modulus  
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**United Aircraft Corp., Stratford, CT.**

- Bonded joint and method  
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**United Aircraft Corp., Sunnyvale, CA.**

- Method and tool for machining a transverse slot about a bore  
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**United Aircraft Corp., West Palm Beach, FL.**

- Inherent redundancy electric heater  
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**United Aircraft Corp., Windsor Locks, CT.**

- Water separating system Patent  
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- Method of forming a root cord restrained convolute section  
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**United States Radium Corp., Parsippany, NJ.**

- Method for applying photographic resists to otherwise incompatible substrates  
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**United Technologies Corp., East Hartford, CT.**

- Method of making a rocket nozzle  
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- Fluid thrust control system  
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- Rocket injector head  
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- Retractable environmental seal  
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- Portable breathing system  
[NASA-CASE-MS-C-16182-1] c 54 N80-10799
- High modulus rare earth and beryllium containing silicate glass compositions  
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- Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338
- Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577
- United Technologies Corp., South Windsor, CT.**
- Reactant pressure differential control for fuel cell gases  
[NASA-CASE-MS-C-20127-2] c 37 N85-34403
- United Technologies Corp., Windsor Locks, CT.**
- Cam-operated pitch-change apparatus  
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- United Technology Center, Sunnyvale, CA.**
- Solid propellant liner Patent  
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- University of Southern Mississippi, Hattiesburg.**
- Low energy electron magnetometer using a monoenergetic electron beam  
[NASA-CASE-LAR-12706-1] c 35 N84-12444

**V****Vanderbilt Univ., Nashville, TN.**

- Solar driven liquid metal MHD power generator  
[NASA-CASE-LAR-12495-1] c 44 N83-28573

**Vapor Corp., Chicago, IL.**

- Method and apparatus for controllably heating fluid Patent  
[NASA-CASE-XMF-04237] c 33 N71-16278

**Varian Associates, Palo Alto, CA.**

- High power-high voltage waterfall Patent  
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- III-V photocathode with nitrogen doping for increased quantum efficiency  
[NASA-CASE-NPO-12134-1] c 33 N76-31409

**Virginia Associated Research Center, Newport News.**

- Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618

**Virginia Polytechnic Inst. and State Univ., Blacksburg.**

- Logarithmic circuit with wide dynamic range  
[NASA-CASE-GSC-12145-1] c 33 N78-32339
- Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups  
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- Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-2] c 27 N84-22746
- Ultrasonic transducer with Gaussian radial pressure distribution  
[NASA-CASE-LAR-12967-1] c 35 N84-22932
- Dual differential interferometer  
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**Virginia Univ., Charlottesville.**

- Depositing semiconductor films utilizing a thermal gradient  
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- Active microwave irises and windows  
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- Thin film microwave iris  
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- Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c 35 N78-19465

**Vivonex Corp., Mountain View, CA.**

- Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844

**Vought Corp., Hampton, VA.**

- Mechanical end joint system for structural column elements  
[NASA-CASE-LAR-12482-1] c 37 N82-32732

**W****Weber Aircraft Corp., Burbank, CA.**

- Articulated multiple couch assembly Patent  
[NASA-CASE-MS-C-11253] c 05 N71-12343
- Device for separating occupant from an ejection seat Patent  
[NASA-CASE-XMS-04625] c 05 N71-20718
- Collapsible Apollo couch  
[NASA-CASE-MS-C-13140] c 05 N72-11095

**Westinghouse Electric Corp., Baltimore, MD.**

- Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462
- Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980
- Solid-state current transformer  
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- Time delay and integration detectors using charge transfer devices  
[NASA-CASE-GSC-12324-1] c 33 N81-33403
- Westinghouse Electric Corp., Huntsville, AL.**
- Solid state television camera system Patent  
[NASA-CASE-XMF-06092] c 07 N71-24612
- Phototransistor  
[NASA-CASE-MFS-20407] c 09 N73-19235
- Westinghouse Electric Corp., Lima, OH.**
- Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c 10 N71-27126
- Westinghouse Electric Corp., Pittsburgh, PA.**
- Linear sawtooth voltage-wave generator employing transistor timing circuit having capacitor-zener diode combination feedback Patent  
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- Regulated power supply Patent  
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- Extended area semiconductor radiation detectors and a novel readout arrangement Patent  
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- Frequency shift keying apparatus Patent  
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- Bearing and gimbal lock mechanism and spiral flex lead module Patent  
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- Multiple slope sweep generator Patent  
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- Self-adjusting multisegment, deployable, natural circulation radiator Patent  
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- Thermally cascaded thermoelectric generator  
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- Phototransistor imaging system  
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- Demodulator for carrier transducers  
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- Method of forming a wick for a heat pipe  
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- Magnifying image intensifier  
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- Westinghouse Electric Corp., Trafford, PA.**
- Sodium storage and injection system  
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- Whirlpool Corp., Saint Joseph, MI.**
- Relief container  
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- Fluid sample collector Patent  
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- Whittaker Corp., Los Angeles, CA.**
- Polyurethanes of fluorine containing polycarbonates  
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- Polyurethanes from fluoroalkyl propyleneglycol polyethers  
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- Fluorohydroxy ethers  
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- Highly fluorinated polymers  
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- Fluorine containing polyurethane  
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- Whittaker Corp., San Diego, CA.**
- Reinforced polyquinoxaline gasket and method of preparing the same  
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Polymeric foams from cross-linkable  
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Coaxial anode wire for gas radiation counters  
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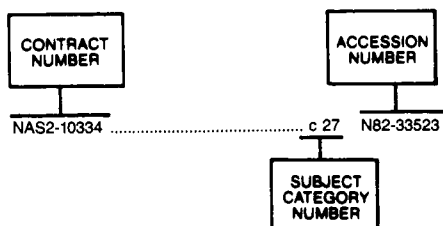
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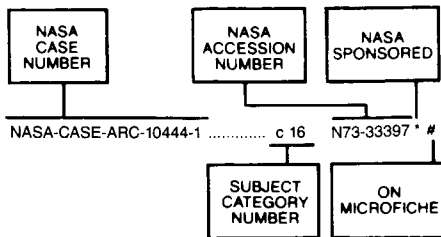
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 NAS 1.71:GSC-13112-1 ..... c 31 N88-29050 \* #  
 NAS 1.71:KSC-11218-1 ..... c 09 N85-19990 \* #  
 NAS 1.71:KSC-11304-2 ..... c 28 N86-23744 \* #  
 NAS 1.71:KSC-12588-1 ..... c 34 N85-21568 \* #  
 NAS 1.71:LAR-12723-1 ..... c 27 N85-20123 \* #  
 NAS 1.71:LAR-12775-2 ..... c 27 N85-21349 \* #  
 NAS 1.71:LAR-12787-2 ..... c 08 N85-19985 \* #  
 NAS 1.71:LAR-12858-2 ..... c 27 N85-20124 \* #  
 NAS 1.71:LAR-12868-1 ..... c 37 N85-21651 \* #  
 NAS 1.71:LAR-12884 ..... c 18 N84-33450 \* #  
 NAS 1.71:LAR-12894-1 ..... c 27 N85-20125 \* #  
 NAS 1.71:LAR-12979-1 ..... c 05 N85-21147 \* #  
 NAS 1.71:LAR-13014-1 ..... c 09 N85-21178 \* #  
 NAS 1.71:LAR-13065-1 ..... c 35 N85-20295 \* #  
 NAS 1.71:LAR-13225-1 ..... c 24 N89-14258 \* #  
 NAS 1.71:LAR-13230-1 ..... c 24 N84-34571 \* #  
 NAS 1.71:LAR-13233-1 ..... c 05 N84-33400 \* #  
 NAS 1.71:LAR-13256-1 ..... c 36 N86-29204 \* #  
 NAS 1.71:LAR-13257-1 ..... c 25 N84-32447 \* #  
 NAS 1.71:LAR-13292-1 ..... c 27 N86-24841 \* #  
 NAS 1.71:LAR-13322-1 ..... c 04 N88-24620 \* #  
 NAS 1.71:LAR-13387-1 ..... c 74 N88-25302 \* #  
 NAS 1.71:LAR-13447-1 ..... c 27 N88-18725 \* #  
 NAS 1.71:LAR-13448-1 ..... c 27 N86-24840 \* #  
 NAS 1.71:LAR-13475-1 ..... c 35 N89-13763 \* #  
 NAS 1.71:LAR-13486-1 ..... c 16 N87-29582 \* #  
 NAS 1.71:LAR-13490-1 ..... c 18 N87-14413 \* #  
 NAS 1.71:LAR-13508-1 ..... c 35 N88-23962 \* #  
 NAS 1.71:LAR-13519-1 ..... c 35 N88-23963 \* #  
 NAS 1.71:LAR-13532-1 ..... c 34 N86-26575 \* #  
 NAS 1.71:LAR-13555-1 ..... c 23 N86-32526 \* #  
 NAS 1.71:LAR-13562-1 ..... c 24 N87-18613 \* #  
 NAS 1.71:LAR-13607-1-CU ..... c 29 N88-29048 \* #  
 NAS 1.71:LAR-13632-1 ..... c 26 N87-29650 \* #  
 NAS 1.71:LAR-13633-1 ..... c 27 N87-24575 \* #  
 NAS 1.71:LAR-13638-1 ..... c 31 N88-29051 \* #  
 NAS 1.71:LAR-13678-1 ..... c 76 N88-25355 \* #  
 NAS 1.71:LAR-13689-1 ..... c 35 N87-23941 \* #  
 NAS 1.71:LAR-13705-1 ..... c 39 N88-25011 \* #  
 NAS 1.71:LAR-13710-1 ..... c 35 N88-29145 \* #  
 NAS 1.71:LAR-13719-1 ..... c 37 N89-12867 \* #

NAS 1.71:LAR-13724-1 ..... c 38 N88-23983 \* #  
 NAS 1.71:LAR-13738-1 ..... c 18 N87-29586 \* #  
 NAS 1.71:LAR-13740-1 ..... c 35 N88-30105 \* #  
 NAS 1.71:LAR-13747-1 ..... c 32 N88-24845 \* #  
 NAS 1.71:LAR-13771-1 ..... c 36 N89-14428 \* #  
 NAS 1.71:LAR-13773-1 ..... c 20 N88-24685 \* #  
 NAS 1.71:LAR-13775-1 ..... c 35 N89-14408 \* #  
 NAS 1.71:LAR-13777-1 ..... c 05 N88-29789 \* #  
 NAS 1.71:LAR-13794-1 ..... c 35 N88-24942 \* #  
 NAS 1.71:LAR-13817-1 ..... c 26 N88-29012 \* #  
 NAS 1.71:LAR-13854-1-CU ..... c 04 N88-24621 \* #  
 NAS 1.71:LAR-13875-1 ..... c 05 N89-14233 \* #  
 NAS 1.71:LAR-13889-1 ..... c 39 N88-30160 \* #  
 NAS 1.71:LAR-13898-1 ..... c 37 N88-30130 \* #  
 NAS 1.71:LAR-13924-1-CU ..... c 26 N88-24753 \* #  
 NAS 1.71:LAR-13952-1-SB ..... c 34 N88-24910 \* #  
 NAS 1.71:LAR-13963-1 ..... c 76 N89-14119 \* #  
 NAS 1.71:LAR-13983-1 ..... c 05 N88-24628 \* #  
 NAS 1.71:LAR-13988-1 ..... c 23 N89-11814 \* #  
 NAS 1.71:LAR-13992-1-CU ..... c 23 N89-13496 \* #  
 NAS 1.71:LEW-14031-1 ..... c 05 N89-14232 \* #  
 NAS 1.71:LEW-12995-1 ..... c 37 N84-33808 \* #  
 NAS 1.71:LEW-13324-2 ..... c 24 N85-21266 \* #  
 NAS 1.71:LEW-13414-1 ..... c 44 N85-20530 \* #  
 NAS 1.71:LEW-13495-1 ..... c 33 N84-33663 \* #  
 NAS 1.71:LEW-13524-1 ..... c 07 N84-33410 \* #  
 NAS 1.71:LEW-13639-1 ..... c 26 N84-33555 \* #  
 NAS 1.71:LEW-13770-3 ..... c 27 N85-21350 \* #  
 NAS 1.71:LEW-13770-4 ..... c 27 N85-21351 \* #  
 NAS 1.71:LEW-13770-5 ..... c 27 N85-21352 \* #  
 NAS 1.71:LEW-13827-1 ..... c 44 N85-21768 \* #  
 NAS 1.71:LEW-13833-1 ..... c 33 N85-21492 \* #  
 NAS 1.71:LEW-13837-2 ..... c 24 N85-21267 \* #  
 NAS 1.71:LEW-13881-1 ..... c 20 N85-21256 \* #  
 NAS 1.71:LEW-14080-1 ..... c 31 N85-20153 \* #  
 NAS 1.71:LEW-14127-1 ..... c 33 N86-20680 \* #  
 NAS 1.71:LEW-14203-1 ..... c 27 N88-29984 \* #  
 NAS 1.71:LEW-14295-1 ..... c 31 N89-14348 \* #  
 NAS 1.71:LEW-14338-1 ..... c 20 N87-10174 \* #  
 NAS 1.71:LEW-14346-1 ..... c 23 N87-14433 \* #  
 NAS 1.71:LEW-14392-2 ..... c 27 N87-27810 \* #  
 NAS 1.71:LEW-14472-1 ..... c 24 N89-14259 \* #  
 NAS 1.71:LEW-14520-1 ..... c 33 N88-23936 \* #  
 NAS 1.71:LEW-14698-1 ..... c 24 N88-29888 \* #  
 NAS 1.71:MFS-25302-2 ..... c 33 N84-33660 \* #  
 NAS 1.71:MFS-25637-1 ..... c 44 N85-21769 \* #  
 NAS 1.71:MFS-25717-1 ..... c 35 N84-33768 \* #  
 NAS 1.71:MFS-25721-1 ..... c 25 N85-21280 \* #  
 NAS 1.71:MFS-25852-1 ..... c 33 N84-33661 \* #  
 NAS 1.71:MFS-25861-1 ..... c 33 N85-22877 \* #  
 NAS 1.71:MFS-25862-1 ..... c 27 N85-20126 \* #  
 NAS 1.71:MFS-25862-2 ..... c 37 N84-33807 \* #  
 NAS 1.71:MFS-25962-1 ..... c 09 N84-32398 \* #  
 NAS 1.71:MFS-26002-1-CU ..... c 35 N86-26598 \* #  
 NAS 1.71:MFS-28008-1 ..... c 35 N85-20300 \* #  
 NAS 1.71:MFS-28013-1 ..... c 89 N86-22459 \* #  
 NAS 1.71:MFS-28139-1 ..... c 29 N87-18679 \* #  
 NAS 1.71:MFS-28153-1 ..... c 31 N86-32589 \* #  
 NAS 1.71:MFS-28161-1 ..... c 37 N87-18817 \* #  
 NAS 1.71:MFS-28182-1 ..... c 76 N88-25357 \* #  
 NAS 1.71:MFS-28183-1 ..... c 74 N89-13253 \* #  
 NAS 1.71:MFS-28206-1-SB ..... c 76 N88-25356 \* #  
 NAS 1.71:MFS-28242-1 ..... c 35 N88-23960 \* #  
 NAS 1.71:MFS-28248-1 ..... c 31 N88-24817 \* #  
 NAS 1.71:MFS-28253-1 ..... c 37 N88-24971 \* #  
 NAS 1.71:MFS-28273-1 ..... c 37 N88-23974 \* #  
 NAS 1.71:MFS-28281-1 ..... c 09 N88-28938 \* #  
 NAS 1.71:MFS-28282-1 ..... c 76 N88-29602 \* #  
 NAS 1.71:MFS-28287-1 ..... c 35 N88-23959 \* #  
 NAS 1.71:MFS-29149-1 ..... c 33 N87-29737 \* #  
 NAS 1.71:MFS-29260-1 ..... c 37 N88-24972 \* #  
 NAS 1.71:MFS-29291-1 ..... c 37 N89-12868 \* #  
 NAS 1.71:MFS-29348-1 ..... c 74 N88-25303 \* #  
 NAS 1.71:MSC-18578-1 ..... c 32 N85-21427 \* #  
 NAS 1.71:MSC-18808-1 ..... c 32 N88-23923 \* #  
 NAS 1.71:MSC-20112-1 ..... c 37 N85-20338 \* #  
 NAS 1.71:MSC-20275-1 ..... c 35 N85-21595 \* #  
 NAS 1.71:MSC-20319-1 ..... c 37 N85-21649 \* #  
 NAS 1.71:MSC-20761-1 ..... c 37 N87-18692 \* #  
 NAS 1.71:MSC-20782-1 ..... c 27 N89-13620 \* #  
 NAS 1.71:MSC-20783-1 ..... c 35 N86-20756 \* #  
 NAS 1.71:MSC-20865-1 ..... c 32 N87-18692 \* #  
 NAS 1.71:MSC-20907-1 ..... c 37 N87-18818 \* #

NAS 1.71:MSC-20964-1 ..... c 60 N87-14863 \* #  
 NAS 1.71:MSC-21059-1 ..... c 35 N89-12843 \* #  
 NAS 1.71:MSC-21082-1 ..... c 27 N87-29672 \* #  
 NAS 1.71:MSC-21094-1 ..... c 35 N88-24941 \* #  
 NAS 1.71:MSC-21095-1 ..... c 37 N89-12866 \* #  
 NAS 1.71:MSC-21170-1 ..... c 17 N88-24662 \* #  
 NAS 1.71:MSC-21171-1 ..... c 37 N88-23973 \* #  
 NAS 1.71:MSC-21293-1 ..... c 51 N89-14666 \* #  
 NAS 1.71:MSC-21294-1 ..... c 51 N84-33131 \* #  
 NAS 1.71:MSC-21299-1 ..... c 20 N88-24684 \* #  
 NAS 1.71:MSC-21330-1 ..... c 16 N88-24660 \* #  
 NAS 1.71:MSC-21332-1 ..... c 03 N89-11724 \* #  
 NAS 1.71:MSC-21354-1 ..... c 37 N88-24969 \* #  
 NAS 1.71:MSC-21356-1 ..... c 18 N88-24671 \* #  
 NAS 1.71:MSC-21364-1 ..... c 54 N89-13889 \* #  
 NAS 1.71:MSC-21365-1 ..... c 37 N89-12865 \* #  
 NAS 1.71:MSC-21366-1 ..... c 54 N89-12206 \* #  
 NAS 1.71:MSC-21372-1 ..... c 35 N89-12842 \* #  
 NAS 1.71:NPO-13556-1 ..... c 35 N84-33766 \* #  
 NAS 1.71:NPO-15155-1 ..... c 74 N85-22139 \* #  
 NAS 1.71:NPO-15295-1 ..... c 60 N85-21992 \* #  
 NAS 1.71:NPO-15341-1 ..... c 35 N84-33769 \* #  
 NAS 1.71:NPO-15430-1 ..... c 46 N85-21846 \* #  
 NAS 1.71:NPO-15433-1 ..... c 32 N85-21428 \* #  
 NAS 1.71:NPO-15466-1 ..... c 71 N85-22104 \* #  
 NAS 1.71:NPO-15483-1 ..... c 37 N85-21650 \* #  
 NAS 1.71:NPO-15493-2 ..... c 35 N85-34373 \* #  
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 NAS 1.71:NPO-15519-1 ..... c 32 N84-34651 \* #  
 NAS 1.71:NPO-15558-1 ..... c 35 N84-34705 \* #  
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 NAS 1.71:NPO-15753-1 ..... c 27 N84-33589 \* #  
 NAS 1.71:NPO-15759-1 ..... c 35 N85-21596 \* #  
 NAS 1.71:NPO-15790-1 ..... c 36 N85-21631 \* #  
 NAS 1.71:NPO-15801-1 ..... c 74 N85-23396 \* #  
 NAS 1.71:NPO-15808-1 ..... c 44 N84-34792 \* #  
 NAS 1.71:NPO-15851-1 ..... c 37 N85-21652 \* #  
 NAS 1.71:NPO-15920-1 ..... c 33 N85-21493 \* #  
 NAS 1.71:NPO-16022-1 ..... c 71 N85-22105 \* #  
 NAS 1.71:NPO-16027-1 ..... c 35 N85-21597 \* #  
 NAS 1.71:NPO-16233-1 ..... c 37 N86-20801 \* #  
 NAS 1.71:NPO-16306-1-CU ..... c 76 N85-30934 \* #  
 NAS 1.71:NPO-16420-1 ..... c 33 N86-20681 \* #  
 NAS 1.71:NPO-16451-1-CU ..... c 80 N86-23283 \* #  
 NAS 1.71:NPO-16464-1-CU ..... c 60 N86-24224 \* #  
 NAS 1.71:NPO-16494-1-CU ..... c 34 N85-29182 \* #  
 NAS 1.71:NPO-16584-1-CU ..... c 76 N86-25269 \* #  
 NAS 1.71:NPO-16632-1-CU ..... c 32 N87-15390 \* #  
 NAS 1.71:NPO-16784-1 ..... c 33 N87-10231 \* #  
 NAS 1.71:NPO-16789-1-CU ..... c 72 N88-25281 \* #  
 NAS 1.71:NPO-16869 ..... c 74 N86-33138 \* #  
 NAS 1.71:NPO-16882-1-CU ..... c 33 N88-24863 \* #  
 NAS 1.71:NPO-16888-1-CU ..... c 33 N88-23937 \* #  
 NAS 1.71:NPO-16892-1-CU ..... c 37 N87-14704 \* #  
 NAS 1.71:NPO-16901-1-CU ..... c 31 N87-15327 \* #  
 NAS 1.71:NPO-16932-1 ..... c 33 N87-15413 \* #  
 NAS 1.71:NPO-16949-1-CU ..... c 62 N87-19021 \* #  
 NAS 1.71:NPO-16985-1-CU ..... c 31 N88-24814 \* #  
 NAS 1.71:NPO-16987-1-CU ..... c 32 N88-30001 \* #  
 NAS 1.71:NPO-17024-1-CU ..... c 35 N88-24943 \* #  
 NAS 1.71:NPO-17108-1-CU ..... c 33 N87-27926 \* #  
 NAS 1.71:NPO-17134-1-CU ..... c 33 N88-24864 \* #  
 NAS 1.71:NPO-17139-1-CU ..... c 74 N88-25301 \* #  
 NAS 1.71:NPO-17144-1-CU ..... c 74 N88-25305 \* #  
 NAS 1.71:NPO-17184-1-CU ..... c 32 N88-26541 \* #  
 NAS 1.71:NPO-17203-1-CU ..... c 34 N89-13728 \* #  
 NAS 1.71:NPO-17207-1-CU ..... c 74 N88-25304 \* #  
 NAS 1.71:NPO-17233-1-CU ..... c 33 N88-29095 \* #  
 NAS 1.71:NPO-17249-1-CU ..... c 32 N88-23924 \* #  
 NAS 1.71:NPO-17259-1-CU ..... c 76 N88-25358 \* #  
 NAS 1.71:NPO-17278-1-CU ..... c 31 N88-24818 \* #  
 NAS 1.71:NPO-17280-1-CU ..... c 17 N88-27220 \* #  
 NAS 1.71:NPO-17354-1-CU ..... c 36 N89-12856 \* #  
 NAS 1.71:NPO-17391-1-CU ..... c 34 N88-23946 \* #  
 NAS 1.71:NPO-17310-1-CU ..... c 17 N88-28946 \* #  
 NAS 1.71:NPO-17325-1-CU ..... c 32 N88-24846 \* #  
 NAS 1.71:NPO-17334-1-CU ..... c 31 N88-23917 \* #  
 NAS 1.71:NPO-17354-1-CU ..... c 37 N88-24973 \* #  
 NAS 1.71:NPO-17390-1-CU ..... c 35 N88-24944 \* #  
 NAS 1.71:NPO-17399-1-CU ..... c 76 N89-14120 \* #  
 NAS 1.71:NPO-17436-1-CU ..... c 35 N89-13764 \* #



NAS 1.71:NPO-17453-1-CU	c 37	N89-13787 *	#	NASA-CASE-ARC-10711-2	c 33	N76-21390 *	NASA-CASE-ARC-11174-1	c 24	N81-13999 *
NAS 1.71:WLP-10055-2	c 35	N85-21598 *		NASA-CASE-ARC-10712-1	c 07	N74-33218 *	NASA-CASE-ARC-11176-1	c 27	N82-18389 *
NASA-CASE-ARC-10003-1	c 09	N71-25866 *		NASA-CASE-ARC-10714-1	c 27	N76-15310 *	NASA-CASE-ARC-11176-2	c 27	N81-27271 *
NASA-CASE-ARC-10009-1	c 15	N71-17822 *		NASA-CASE-ARC-10716-1	c 35	N77-20399 *	NASA-CASE-ARC-11241-1	c 25	N81-14016 *
NASA-CASE-ARC-10017-1	c 14	N72-29464 *		NASA-CASE-ARC-10721-1	c 27	N76-22376 *	NASA-CASE-ARC-11243-2	c 23	N85-33187 *
NASA-CASE-ARC-10020	c 10	N72-17172 *		NASA-CASE-ARC-10722-1	c 51	N75-25503 *	NASA-CASE-ARC-11244-1	c 23	N82-16174 *
NASA-CASE-ARC-10030	c 09	N71-12521 *		NASA-CASE-ARC-10753-1	c 54	N75-27760 *	NASA-CASE-ARC-11245-1	c 28	N82-18401 *
NASA-CASE-ARC-10042-2	c 10	N72-11256 *		NASA-CASE-ARC-10754-1	c 07	N75-24736 *	NASA-CASE-ARC-11246-1	c 31	N83-34073 *
NASA-CASE-ARC-10043-1	c 05	N71-11193 *		NASA-CASE-ARC-10755-2	c 34	N76-27517 *	NASA-CASE-ARC-11248-1	c 27	N81-17259 *
NASA-CASE-ARC-10050	c 03	N71-33409 *		NASA-CASE-ARC-10756-1	c 54	N77-32721 *	NASA-CASE-ARC-11251-1	c 37	N81-17433 *
NASA-CASE-ARC-10097-2	c 07	N73-25160 *		NASA-CASE-ARC-10760-1	c 25	N76-22323 *	NASA-CASE-ARC-11252-1	c 25	N83-36118 *
NASA-CASE-ARC-10098-1	c 06	N71-24739 *		NASA-CASE-ARC-10761-1	c 07	N77-18154 *	NASA-CASE-ARC-11253-1	c 27	N81-17262 *
NASA-CASE-ARC-10099-1	c 18	N71-15469 *		NASA-CASE-ARC-10802-1	c 35	N75-30502 *	NASA-CASE-ARC-11253-2	c 27	N82-24338 *
NASA-CASE-ARC-10100-1	c 05	N71-24738 *		NASA-CASE-ARC-10806-1	c 35	N75-29381 *	NASA-CASE-ARC-11253-3	c 27	N81-24256 *
NASA-CASE-ARC-10101-1	c 09	N71-33109 *		NASA-CASE-ARC-10807-1	c 05	N77-17029 *	NASA-CASE-ARC-11256-1	c 15	N82-24272 *
NASA-CASE-ARC-10105	c 09	N72-17153 *		NASA-CASE-ARC-10808-1	c 09	N76-24280 *	NASA-CASE-ARC-11257-1	c 04	N81-21047 *
NASA-CASE-ARC-10106-1	c 28	N72-22769 *		NASA-CASE-ARC-10810-1	c 33	N76-19339 *	NASA-CASE-ARC-11258-1	c 52	N80-33081 *
NASA-CASE-ARC-10131-1	c 15	N71-27754 *		NASA-CASE-ARC-10812-1	c 07	N83-33884 *	NASA-CASE-ARC-11261-1	c 24	N83-25789 *
NASA-CASE-ARC-10132-1	c 09	N71-24597 *		NASA-CASE-ARC-10813-1	c 27	N76-16230 *	NASA-CASE-ARC-11264-2	c 52	N83-29991 *
NASA-CASE-ARC-10134	c 30	N72-17873 *		NASA-CASE-ARC-10814-2	c 07	N80-26298 *	NASA-CASE-ARC-11267-2	c 23	N82-28353 *
NASA-CASE-ARC-10136-1	c 09	N72-22202 *		NASA-CASE-ARC-10816-1	c 35	N76-24525 *	NASA-CASE-ARC-11310-1	c 27	N82-24339 *
NASA-CASE-ARC-10137-1	c 09	N71-28468 *		NASA-CASE-ARC-10820-1	c 35	N78-19466 *	NASA-CASE-ARC-11311-1	c 74	N83-13978 *
NASA-CASE-ARC-10138-1	c 14	N72-24477 *		NASA-CASE-ARC-10849-1	c 17	N76-29347 *	NASA-CASE-ARC-11312-1	c 36	N83-34304 *
NASA-CASE-ARC-10140-1	c 15	N71-17653 *		NASA-CASE-ARC-10855-1	c 52	N77-10780 *	NASA-CASE-ARC-11314-1	c 54	N82-26987 *
NASA-CASE-ARC-10153	c 05	N71-28619 *		NASA-CASE-ARC-10892-2	c 27	N79-14214 *	NASA-CASE-ARC-11317-1	c 35	N83-34272 *
NASA-CASE-ARC-10154-1	c 14	N72-22440 *		NASA-CASE-ARC-10896-1	c 35	N78-19465 *	NASA-CASE-ARC-11321-1	c 27	N81-27272 *
NASA-CASE-ARC-10160-1	c 23	N72-27728 *		NASA-CASE-ARC-10897-1	c 33	N77-31404 *	NASA-CASE-ARC-11322-1	c 51	N83-28849 *
NASA-CASE-ARC-10176-1	c 15	N72-21464 *		NASA-CASE-ARC-10898-1	c 35	N77-18417 *	NASA-CASE-ARC-11325-1	c 37	N82-22496 *
NASA-CASE-ARC-10178-1	c 09	N72-17152 *		NASA-CASE-ARC-10899-1	c 60	N77-19610 *	NASA-CASE-ARC-11326-1	c 25	N83-33977 *
NASA-CASE-ARC-10179-1	c 21	N72-22619 *		NASA-CASE-ARC-10900-1	c 35	N77-24454 *	NASA-CASE-ARC-11349-1	c 37	N86-20797 *
NASA-CASE-ARC-10180-1	c 27	N74-12814 *		NASA-CASE-ARC-10903-1	c 09	N78-18083 *	NASA-CASE-ARC-11354-1	c 74	N83-21949 *
NASA-CASE-ARC-10192	c 09	N72-21245 *		NASA-CASE-ARC-10905-1	c 37	N77-13418 *	NASA-CASE-ARC-11359-1	c 51	N84-28361 *
NASA-CASE-ARC-10194-1	c 23	N73-20741 *		NASA-CASE-ARC-10907-1	c 37	N75-32465 *	NASA-CASE-ARC-11361-1	c 35	N84-22934 *
NASA-CASE-ARC-10196-1	c 18	N73-13562 *		NASA-CASE-ARC-10911-1	c 35	N77-20400 *	NASA-CASE-ARC-11363-1	c 31	N87-16918 *
NASA-CASE-ARC-10197-1	c 33	N74-17929 *		NASA-CASE-ARC-10912-1	c 34	N77-19353 *	NASA-CASE-ARC-11368-1	c 27	N83-31854 *
NASA-CASE-ARC-10198	c 34	N78-17336 *		NASA-CASE-ARC-10913-1	c 24	N78-15180 *	NASA-CASE-ARC-11368-2	c 27	N85-21347 *
NASA-CASE-ARC-10199	c 34	N78-17337 *		NASA-CASE-ARC-10915-2	c 27	N79-18052 *	NASA-CASE-ARC-11368-3	c 27	N84-22745 *
NASA-CASE-ARC-10263-1	c 14	N72-22438 *		NASA-CASE-ARC-10916-1	c 52	N78-10686 *	NASA-CASE-ARC-11370-1	c 27	N84-22750 *
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NASA-CASE-ERC-10285	c 10	N73-16206 *	NASA-CASE-GSC-10299-1	c 09	N71-24804 *	NASA-CASE-GSC-11428-1	c 32	N74-20864 *
NASA-CASE-ERC-10292	c 14	N72-25410 *	NASA-CASE-GSC-10303	c 15	N72-22487 *	NASA-CASE-GSC-11434-1	c 34	N74-27859 *
NASA-CASE-ERC-10307	c 08	N72-21198 *	NASA-CASE-GSC-10306-1	c 15	N71-24694 *	NASA-CASE-GSC-11444-1	c 14	N73-28490 *
NASA-CASE-ERC-10324	c 07	N72-25173 *	NASA-CASE-GSC-10344-1	c 03	N72-27053 *	NASA-CASE-GSC-11445-1	c 31	N74-27902 *
NASA-CASE-ERC-10325	c 15	N72-25457 *	NASA-CASE-GSC-10349-1	c 44	N82-24645 *	NASA-CASE-GSC-11446-1	c 33	N74-20860 *
NASA-CASE-ERC-10338	c 04	N72-33072 *	NASA-CASE-GSC-10350-1	c 44	N82-24642 *	NASA-CASE-GSC-11479-1	c 35	N74-28097 *
NASA-CASE-ERC-10339-1	c 18	N73-30532 *	NASA-CASE-GSC-10361-1	c 18	N72-23581 *	NASA-CASE-GSC-11487-1	c 14	N73-30393 *
NASA-CASE-ERC-10350	c 14	N73-20474 *	NASA-CASE-GSC-10366-1	c 10	N71-18772 *	NASA-CASE-GSC-11492-1	c 35	N74-26949 *
NASA-CASE-ERC-10363	c 18	N72-25541 *	NASA-CASE-GSC-10373-1	c 07	N71-19773 *	NASA-CASE-GSC-11513-1	c 33	N74-20862 *
NASA-CASE-ERC-10364	c 18	N72-25540 *	NASA-CASE-GSC-10376-1	c 14	N71-27407 *	NASA-CASE-GSC-11514-1	c 03	N72-24037 *
NASA-CASE-ERC-10365-1	c 31	N73-32749 *	NASA-CASE-GSC-10390-1	c 07	N72-11149 *	NASA-CASE-GSC-11531-1	c 52	N74-27566 *
NASA-CASE-ERC-10392	c 21	N73-14692 *	NASA-CASE-GSC-10413	c 10	N71-26531 *	NASA-CASE-GSC-11533-1	c 14	N73-13435 *
NASA-CASE-ERC-10403-1	c 10	N73-26228 *	NASA-CASE-GSC-10441-1	c 14	N71-27325 *	NASA-CASE-GSC-11551-1	c 37	N76-18459 *
NASA-CASE-ERC-10412-1	c 09	N73-12211 *	NASA-CASE-GSC-10452	c 07	N71-12396 *	NASA-CASE-GSC-11553-1	c 35	N74-15831 *
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NASA-CASE-ERC-10468	c 09	N72-20206 *	NASA-CASE-GSC-10514-1	c 14	N72-20379 *	NASA-CASE-GSC-11571-1	c 36	N77-25499 *
NASA-CASE-ERC-10552	c 09	N71-12539 *	NASA-CASE-GSC-10518-1	c 15	N72-22489 *	NASA-CASE-GSC-11577-1	c 37	N75-15992 *
NASA-CASE-ERC-11020	c 14	N71-26774 *	NASA-CASE-GSC-10553-1	c 07	N71-19854 *	NASA-CASE-GSC-11577-3	c 24	N79-25143 *
NASA-CASE-FRC-10005	c 15	N71-26145 *	NASA-CASE-GSC-10554-1	c 08	N71-29033 *	NASA-CASE-GSC-11582-1	c 33	N75-19517 *
NASA-CASE-FRC-10010	c 10	N71-24862 *	NASA-CASE-GSC-10555-1	c 21	N71-27324 *	NASA-CASE-GSC-11600-1	c 35	N74-21019 *
NASA-CASE-FRC-10012	c 14	N72-17229 *	NASA-CASE-GSC-10556-1	c 31	N71-26537 *	NASA-CASE-GSC-11602-1	c 33	N74-21850 *
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NASA-CASE-FRC-10053	c 14	N70-35587 *	NASA-CASE-GSC-10656-1	c 09	N72-25249 *	NASA-CASE-GSC-11760-1	c 33	N75-19516 *
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NASA-CASE-GSC-11783-1	c 33	N75-19516 *	NASA-CASE-GSC-12357-1	c 74	N80-21140 *	NASA-CASE-HQN-10462	c 25	N75-29192 *
NASA-CASE-GSC-11786-1	c 24	N76-24363 *	NASA-CASE-GSC-12360-1	c 33	N81-19392 *	NASA-CASE-HQN-10537-1	c 06	N72-10138 *
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NASA-CASE-GSC-12171-1	c 33	N79-28416 *	NASA-CASE-GSC-12851-1	c 35	N85-30281 *	NASA-CASE-KSC-11004-1	c 54	N77-30749 *
NASA-CASE-GSC-12173-1	c 51	N79-10694 *	NASA-CASE-GSC-12880-1	c 26	N86-32550 *	NASA-CASE-KSC-11008-1	c 33	N79-22373 *
NASA-CASE-GSC-12190-1	c 33	N79-12321 *	NASA-CASE-GSC-12883-1	c 27	N85-29044 *	NASA-CASE-KSC-11010-1	c 74	N79-12890 *
NASA-CASE-GSC-12191-1	c 31	N80-32583 *	NASA-CASE-GSC-12892-1	c 32	N89-14374 *	NASA-CASE-KSC-11018-1	c 33	N79-10337 *
NASA-CASE-GSC-12194-2	c 20	N82-18314 *	NASA-CASE-GSC-12897-1	c 74	N87-21679 *	NASA-CASE-KSC-11023-1	c 32	N79-23310 *
NASA-CASE-GSC-12207-1	c 24	N79-14156 *	NASA-CASE-GSC-12899-1	c 33	N86-20669 *	NASA-CASE-KSC-11025-1	c 32	N83-13323 *
NASA-CASE-GSC-12219-1	c 35	N80-18359 *	NASA-CASE-GSC-12911-1	c 74	N86-29650 *	NASA-CASE-KSC-11030-1	c 52	N77-25772 *
NASA-CASE-GSC-12223-1	c 60	N83-25378 *	NASA-CASE-GSC-12944-1	c 52	N86-19885 *	NASA-CASE-KSC-11031-1	c 33	N79-11315 *
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NASA-CASE-LEW-11388-1	c 15	N73-32358 *	NASA-CASE-LEW-12444-1	c 33	N77-28385 *	NASA-CASE-LEW-13269-1	c 18	N83-20996 *
NASA-CASE-LEW-11388-2	c 37	N74-21055 *	NASA-CASE-LEW-12445-1	c 37	N81-22360 *	NASA-CASE-LEW-13269-2	c 37	N84-22957 *
NASA-CASE-LEW-11390-2	c 25	N76-27383 *	NASA-CASE-LEW-12452-1	c 07	N78-25089 *	NASA-CASE-LEW-13282-1	c 33	N82-24415 *
NASA-CASE-LEW-11390-3	c 25	N76-29379 *	NASA-CASE-LEW-12465-1	c 25	N78-25148 *	NASA-CASE-LEW-13286-1	c 33	N84-14422 *
NASA-CASE-LEW-11402-1	c 07	N74-28226 *	NASA-CASE-LEW-12477-1	c 37	N77-32501 *	NASA-CASE-LEW-13324-2	c 24	N85-21266 *
NASA-CASE-LEW-11484-1	c 24	N75-33181 *	NASA-CASE-LEW-12493-1	c 24	N81-17170 *	NASA-CASE-LEW-13339-1	c 26	N82-31505 *
NASA-CASE-LEW-11496-1	c 44	N77-14580 *	NASA-CASE-LEW-12493-2	c 24	N81-26179 *	NASA-CASE-LEW-13343-1	c 27	N82-28441 *
NASA-CASE-LEW-11531	c 15	N71-14932 *	NASA-CASE-LEW-12496-1	c 07	N78-33101 *	NASA-CASE-LEW-13343	c 26	N83-31795 *
NASA-CASE-LEW-11549-1	c 44	N77-19571 *	NASA-CASE-LEW-12508-1	c 34	N78-17335 *	NASA-CASE-LEW-13349-1	c 26	N84-22734 *
NASA-CASE-LEW-11569-1	c 07	N74-15453 *	NASA-CASE-LEW-12508-3	c 34	N83-29625 *	NASA-CASE-LEW-1335901	c 27	N83-31855 *
NASA-CASE-LEW-11573-1	c 26	N77-28265 *	NASA-CASE-LEW-12513-1	c 25	N79-22235 *	NASA-CASE-LEW-13400-1	c 44	N82-31764 *
NASA-CASE-LEW-11581-1	c 54	N75-13531 *	NASA-CASE-LEW-12527-1	c 37	N77-32500 *	NASA-CASE-LEW-13401-1	c 44	N82-29709 *
NASA-CASE-LEW-11583-1	c 35	N79-17192 *	NASA-CASE-LEW-12541-1	c 44	N78-25529 *	NASA-CASE-LEW-13401-2	c 44	N83-32177 *
NASA-CASE-LEW-11593-1	c 20	N76-14190 *	NASA-CASE-LEW-12542-2	c 26	N79-22271 *	NASA-CASE-LEW-13414-1	c 44	N85-20530 *
NASA-CASE-LEW-11617-1	c 33	N74-10195 *	NASA-CASE-LEW-12542-3	c 26	N80-32484 *	NASA-CASE-LEW-13426-1	c 25	N84-16276 *
NASA-CASE-LEW-11632-2	c 35	N75-13213 *	NASA-CASE-LEW-12550-1	c 24	N77-19170 *	NASA-CASE-LEW-13429-1	c 33	N83-31952 *
NASA-CASE-LEW-11646-1	c 20	N74-31269 *	NASA-CASE-LEW-12552-1	c 44	N78-25527 *	NASA-CASE-LEW-13450-1	c 31	N83-35177 *
NASA-CASE-LEW-11669-1	c 05	N73-27062 *	NASA-CASE-LEW-12552-2	c 44	N79-11472 *	NASA-CASE-LEW-13495-1	c 33	N84-33663 *
NASA-CASE-LEW-11672-1	c 37	N74-27904 *	NASA-CASE-LEW-12554-1	c 34	N78-18355 *	NASA-CASE-LEW-13504-1	c 25	N83-13188 *
NASA-CASE-LEW-11676-1	c 37	N76-22541 *	NASA-CASE-LEW-12569-1	c 37	N79-10418 *	NASA-CASE-LEW-13506-1	c 37	N85-33490 *
NASA-CASE-LEW-11694-1	c 20	N75-18310 *	NASA-CASE-LEW-12582-1	c 76	N83-34796 *	NASA-CASE-LEW-13524-1	c 07	N84-33410 *
NASA-CASE-LEW-11694-2	c 37	N76-14461 *	NASA-CASE-LEW-12586-1	c 44	N80-14472 *	NASA-CASE-LEW-13526-1	c 36	N84-22944 *
NASA-CASE-LEW-11696-1	c 37	N75-13261 *	NASA-CASE-LEW-12587-1	c 44	N77-31601 *	NASA-CASE-LEW-13556-1	c 44	N81-27615 *
NASA-CASE-LEW-11696-2	c 26	N75-19408 *	NASA-CASE-LEW-12590-1	c 37	N84-22958 *	NASA-CASE-LEW-13562-2	c 07	N85-35195 *
NASA-CASE-LEW-11726-1	c 26	N73-26752 *	NASA-CASE-LEW-12594-2	c 07	N81-19116 *	NASA-CASE-LEW-13570-1	c 33	N84-16452 *
NASA-CASE-LEW-11855-1	c 07	N78-25090 *	NASA-CASE-LEW-12608-1	c 07	N77-27116 *	NASA-CASE-LEW-13598-1	c 35	N84-22930 *
NASA-CASE-LEW-11860-1	c 37	N76-18458 *	NASA-CASE-LEW-12619-1	c 24	N77-19171 *	NASA-CASE-LEW-13609-1	c 25	N83-17628 *
NASA-CASE-LEW-11866-1	c 72	N76-15860 *	NASA-CASE-LEW-12649-1	c 44	N78-25530 *	NASA-CASE-LEW-13620-1	c 44	N83-13579 *
NASA-CASE-LEW-11873-1	c 37	N79-22475 *	NASA-CASE-LEW-12658-1	c 71	N79-14871 *	NASA-CASE-LEW-13622-1	c 07	N84-22559 *
NASA-CASE-LEW-11876-1	c 20	N76-21276 *	NASA-CASE-LEW-12661-1	c 35	N79-14345 *	NASA-CASE-LEW-13639-1	c 26	N84-33555 *
NASA-CASE-LEW-11877-1	c 34	N78-27357 *	NASA-CASE-LEW-12668-1	c 52	N78-14773 *	NASA-CASE-LEW-13639-2	c 26	N84-27855 *
NASA-CASE-LEW-11881-1	c 33	N77-17354 *	NASA-CASE-LEW-12718-1	c 34	N78-25351 *	NASA-CASE-LEW-13653-1	c 44	N84-28205 *
NASA-CASE-LEW-11890-1	c 05	N79-24976 *	NASA-CASE-LEW-12723-1	c 52	N80-18690 *	NASA-CASE-LEW-13654-1	c 07	N84-22560 *
NASA-CASE-LEW-11915-1	c 35	N76-14431 *	NASA-CASE-LEW-12760-1	c 07	N77-17059 *	NASA-CASE-LEW-13670-1	c 37	N86-19606 *
NASA-CASE-LEW-11925-1	c 37	N75-31446 *	NASA-CASE-LEW-12775-1	c 44	N79-11468 *	NASA-CASE-LEW-13717-1	c 37	N85-30333 *
NASA-CASE-LEW-11930-1	c 24	N76-22309 *	NASA-CASE-LEW-12780-1	c 20	N79-20179 *	NASA-CASE-LEW-13736-1	c 33	N84-27974 *
NASA-CASE-LEW-11930-3	c 24	N80-33482 *	NASA-CASE-LEW-12785-1	c 37	N78-24545 *	NASA-CASE-LEW-13758-1	c 24	N84-27829 *
NASA-CASE-LEW-11930-4	c 24	N79-17916 *	NASA-CASE-LEW-12791-1	c 33	N78-32341 *	NASA-CASE-LEW-13770-1	c 27	N84-27885 *
NASA-CASE-LEW-11938-1	c 33	N76-15373 *	NASA-CASE-LEW-12793-1	c 37	N79-11403 *	NASA-CASE-LEW-13770-2	c 25	N85-28982 *
NASA-CASE-LEW-11949-1	c 37	N76-29588 *	NASA-CASE-LEW-12806-2	c 44	N81-12542 *	NASA-CASE-LEW-13770-3	c 27	N85-21350 *
NASA-CASE-LEW-11978-1	c 33	N77-26385 *	NASA-CASE-LEW-12819-1	c 44	N79-11467 *	NASA-CASE-LEW-13770-4	c 27	N85-21351 *
NASA-CASE-LEW-11981-1	c 31	N78-17237 *	NASA-CASE-LEW-12819-2	c 44	N79-18444 *	NASA-CASE-LEW-13770-5	c 27	N85-21352 *
NASA-CASE-LEW-11981-2	c 34	N79-20336 *	NASA-CASE-LEW-12830-1	c 07	N77-23106 *	NASA-CASE-LEW-13770-6	c 25	N85-30039 *
NASA-CASE-LEW-12013-1	c 33	N79-10339 *	NASA-CASE-LEW-12876-2	c 27	N83-29392 *	NASA-CASE-LEW-13772-2	c 33	N86-20671 *
NASA-CASE-LEW-12039-1	c 44	N78-14625 *	NASA-CASE-LEW-12892-1	c 44	N83-14692 *	NASA-CASE-LEW-13822-1	c 44	N86-25874 *
NASA-CASE-LEW-12048-1	c 20	N77-20162 *	NASA-CASE-LEW-12905-1	c 26	N78-18183 *	NASA-CASE-LEW-13827-1	c 44	N85-21768 *
NASA-CASE-LEW-12050-1	c 35	N77-32454 *	NASA-CASE-LEW-12906-1	c 26	N77-32279 *	NASA-CASE-LEW-13828-1	c 24	N85-30027 *
NASA-CASE-LEW-12051-1	c 52	N75-33640 *	NASA-CASE-LEW-12907-2	c 07	N81-19115 *	NASA-CASE-LEW-13833-1	c 33	N85-21492 *
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NASA-CASE-LEW-12053-2	c 27	N79-28307 *	NASA-CASE-LEW-12917-1	c 07	N78-18067 *	NASA-CASE-LEW-13837-1	c 24	N84-22695 *
NASA-CASE-LEW-12078-1	c 35	N75-30503 *	NASA-CASE-LEW-12918-1	c 44	N81-24521 *	NASA-CASE-LEW-13837-2	c 24	N85-21267 *
NASA-CASE-LEW-12081-1	c 28	N78-24365 *	NASA-CASE-LEW-12919-1	c 24	N83-10117 *	NASA-CASE-LEW-13864-1	c 27	N86-19457 *
NASA-CASE-LEW-12081-2	c 28	N80-20402 *	NASA-CASE-LEW-12919-2	c 70	N84-28565 *	NASA-CASE-LEW-13881-1	c 20	N85-21256 *
NASA-CASE-LEW-12081-3	c 28	N81-14103 *	NASA-CASE-LEW-12933-1	c 27	N81-19296 *	NASA-CASE-LEW-13899-1	c 31	N87-21160 *
NASA-CASE-LEW-12082-1	c 20	N77-10148 *	NASA-CASE-LEW-12938-1	c 07	N82-32366 *	NASA-CASE-LEW-13914-1	c 37	N85-33489 *
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NASA-CASE-LEW-12094-1	c 76	N76-25049 *	NASA-CASE-LEW-12941-1	c 26	N83-10170 *	NASA-CASE-LEW-13923-1	c 26	N85-35267 *
NASA-CASE-LEW-12095-1	c 26	N78-18182 *	NASA-CASE-LEW-12950-1	c 34	N82-11399 *	NASA-CASE-LEW-13934-1	c 35	N83-35338 *
NASA-CASE-LEW-12118-1	c 24	N77-27188 *	NASA-CASE-LEW-12950-2	c 34	N85-29179 *	NASA-CASE-LEW-13935-1	c 33	N87-21234 *
NASA-CASE-LEW-12119-1	c 37	N80-28711 *	NASA-CASE-LEW-12955-1	c 52	N80-14684 *	NASA-CASE-LEW-13981-2	c 33	N86-21742 *
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NASA-CASE-LEW-12131-1	c 37	N79-18318 *	NASA-CASE-LEW-12972-1	c 44	N79-25481 *	NASA-CASE-LEW-14035-1	c 07	N84-24577 *
NASA-CASE-LEW-12131-2	c 37	N80-26658 *	NASA-CASE-LEW-12982-1	c 37	N81-19455 *	NASA-CASE-LEW-14037-1	c 20	N87-16875 *
NASA-CASE-LEW-12131-3	c 37	N82-19540 *	NASA-CASE-LEW-12989-1	c 37	N82-12442 *	NASA-CASE-LEW-14039-1	c 34	N85-33433 *
NASA-CASE-LEW-12137-1	c 25	N78-10224 *	NASA-CASE-LEW-12990-1	c 07	N81-29129 *	NASA-CASE-LEW-14057-1	c 24	N85-35233 *
NASA-CASE-LEW-12159-1	c 44	N78-19599 *	NASA-CASE-LEW-12991-1	c 37	N81-24442 *	NASA-CASE-LEW-14072-1	c 27	N86-19458 *
NASA-CASE-LEW-12164-1	c 36	N77-32478 *	NASA-CASE-LEW-12995-1	c 37	N84-33808 *	NASA-CASE-LEW-14072-2	c 27	N86-32569 *
NASA-CASE-LEW-12174-2	c 35	N79-14346 *	NASA-CASE-LEW-13027-1	c 27	N80-24437 *	NASA-CASE-LEW-14072-3	c 27	N87-23736 *
NASA-CASE-LEW-12185-1	c 44	N78-25528 *	NASA-CASE-LEW-13028-1	c 27	N82-33521 *	NASA-CASE-LEW-14077-1	c 44	N85-34441 *
NASA-CASE-LEW-12217-1	c 43	N78-14452 *	NASA-CASE-LEW-13050-1	c 07	N79-14095 *	NASA-CASE-LEW-14080-1	c 31	N85-20153 *
NASA-CASE-LEW-12220-1	c 44	N77-14581 *	NASA-CASE-LEW-13088-1	c 26	N81-25188 *	NASA-CASE-LEW-14104-2	c 26	N88-14179 *
NASA-CASE-LEW-12232-1	c 07	N79-10057 *	NASA-CASE-LEW-13101-2	c 23	N81-29160 *	NASA-CASE-LEW-14108-1	c 33	N87-28832 *



NASA-CASE-LEW-14127-1	c 33	N86-20680 *	#	NASA-CASE-MFS-20180	c 16	N72-12440 *	NASA-CASE-MFS-21372-1	c 74	N74-27866 *
NASA-CASE-LEW-14130-1	c 31	N86-32587 *		NASA-CASE-MFS-20207-1	c 09	N73-32107 *	NASA-CASE-MFS-21374-1	c 33	N74-12951 *
NASA-CASE-LEW-14134-2	c 26	N89-14303 *		NASA-CASE-MFS-20240	c 14	N71-26788 *	NASA-CASE-MFS-21394-1	c 34	N74-27744 *
NASA-CASE-LEW-14170-1	c 37	N86-25790 *		NASA-CASE-MFS-20242	c 14	N73-19421 *	NASA-CASE-MFS-21395-1	c 25	N74-26948 *
NASA-CASE-LEW-14177-1	c 44	N86-32875 *		NASA-CASE-MFS-20243	c 23	N73-13662 *	NASA-CASE-MFS-21415-1	c 52	N74-20728 *
NASA-CASE-LEW-14196-2	c 37	N87-25585 *	#	NASA-CASE-MFS-20249	c 15	N72-11386 *	NASA-CASE-MFS-21424-1	c 34	N74-27730 *
NASA-CASE-LEW-14203-1	c 27	N88-29984 *	#	NASA-CASE-MFS-20261	c 14	N71-27005 *	NASA-CASE-MFS-21433	c 09	N73-20232 *
NASA-CASE-LEW-14212-1	c 37	N88-23978 *		NASA-CASE-MFS-20284-1	c 52	N74-12778 *	NASA-CASE-MFS-21441-1	c 34	N73-30392 *
NASA-CASE-LEW-14262-1	c 26	N87-28647 *		NASA-CASE-MFS-20299	c 15	N72-11392 *	NASA-CASE-MFS-21455-1	c 35	N74-15146 *
NASA-CASE-LEW-14295-1	c 31	N89-14348 *	#	NASA-CASE-MFS-20317	c 15	N73-13463 *	NASA-CASE-MFS-21462-1	c 33	N74-14935 *
NASA-CASE-LEW-14297-1	c 35	N89-12048 *		NASA-CASE-MFS-20325	c 28	N71-27095 *	NASA-CASE-MFS-21465-1	c 10	N73-32145 *
NASA-CASE-LEW-14338-1	c 20	N87-10174 *	#	NASA-CASE-MFS-20332-2	c 05	N73-25125 *	NASA-CASE-MFS-21470-1	c 44	N74-19870 *
NASA-CASE-LEW-14345-1	c 23	N88-26404 *		NASA-CASE-MFS-20332	c 05	N72-20097 *	NASA-CASE-MFS-21481-1	c 37	N74-18127 *
NASA-CASE-LEW-14346-1	c 23	N87-14433 *		NASA-CASE-MFS-20333	c 09	N71-13486 *	NASA-CASE-MFS-21485-1	c 37	N74-25968 *
NASA-CASE-LEW-14374-1	c 09	N88-28939 *		NASA-CASE-MFS-20335-1	c 35	N74-10415 *	NASA-CASE-MFS-21488-1	c 14	N75-24794 *
NASA-CASE-LEW-14392-1	c 27	N87-28656 *		NASA-CASE-MFS-20355	c 33	N71-25353 *	NASA-CASE-MFS-21540-1	c 32	N74-19790 *
NASA-CASE-LEW-14392-2	c 27	N87-27810 *	#	NASA-CASE-MFS-20385	c 09	N71-24904 *	NASA-CASE-MFS-21556-1	c 35	N74-26945 *
NASA-CASE-LEW-14472-1	c 24	N89-14259 *	#	NASA-CASE-MFS-20386	c 21	N71-19212 *	NASA-CASE-MFS-21577-1	c 19	N74-29410 *
NASA-CASE-LEW-14520-1	c 33	N88-23936 *	#	NASA-CASE-MFS-20395	c 15	N71-24903 *	NASA-CASE-MFS-21606-1	c 37	N75-19685 *
NASA-CASE-LEW-14586-1	c 07	N83-31603 *		NASA-CASE-MFS-20400	c 31	N71-18611 *	NASA-CASE-MFS-21611-1	c 54	N75-12616 *
NASA-CASE-LEW-14698-1	c 24	N88-29888 *	#	NASA-CASE-MFS-20407	c 09	N73-19235 *	NASA-CASE-MFS-21616-1	c 33	N75-30429 *
NASA-CASE-LEW-23169-2	c 26	N81-16209 *	#	NASA-CASE-MFS-20408	c 18	N73-12604 *	NASA-CASE-MFS-21628-1	c 44	N75-32581 *
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NASA-CASE-MFS-06074	c 15	N71-20393 *		NASA-CASE-MFS-20413	c 15	N72-21463 *	NASA-CASE-MFS-21629	c 14	N72-22442 *
NASA-CASE-MFS-07369	c 15	N71-20443 *		NASA-CASE-MFS-20418	c 14	N73-24473 *	NASA-CASE-MFS-21660-1	c 35	N74-21017 *
NASA-CASE-MFS-10068	c 10	N71-25139 *		NASA-CASE-MFS-20423	c 15	N72-11395 *	NASA-CASE-MFS-21671-1	c 32	N74-22955 *
NASA-CASE-MFS-10340	c 15	N71-17628 *		NASA-CASE-MFS-20433	c 15	N72-28496 *	NASA-CASE-MFS-21672-1	c 74	N76-19935 *
NASA-CASE-MFS-10412	c 12	N71-17578 *		NASA-CASE-MFS-20434	c 11	N72-25288 *	NASA-CASE-MFS-21675-1	c 25	N74-33378 *
NASA-CASE-MFS-10506	c 06	N73-30100 *		NASA-CASE-MFS-20453	c 15	N71-29133 *	NASA-CASE-MFS-21680-1	c 18	N74-27397 *
NASA-CASE-MFS-10507	c 06	N73-30101 *		NASA-CASE-MFS-20482	c 15	N72-22492 *	NASA-CASE-MFS-21681-1	c 18	N74-27397 *
NASA-CASE-MFS-10509	c 06	N73-30103 *		NASA-CASE-MFS-20485	c 14	N72-11365 *	NASA-CASE-MFS-21698-1	c 33	N74-26732 *
NASA-CASE-MFS-10512	c 06	N73-30099 *		NASA-CASE-MFS-20486-2	c 27	N74-17283 *	NASA-CASE-MFS-21704-1	c 35	N75-25124 *
NASA-CASE-MFS-10555	c 11	N71-19494 *		NASA-CASE-MFS-20506-1	c 35	N75-12273 *	NASA-CASE-MFS-21728-1	c 35	N74-27865 *
NASA-CASE-MFS-10946-1	c 31	N79-21226 *		NASA-CASE-MFS-20509	c 11	N72-17183 *	NASA-CASE-MFS-21761-1	c 35	N75-15931 *
NASA-CASE-MFS-11132	c 15	N71-17649 *		NASA-CASE-MFS-20523	c 14	N72-27412 *	NASA-CASE-MFS-21846-1	c 37	N74-26976 *
NASA-CASE-MFS-11133	c 31	N71-16222 *		NASA-CASE-MFS-20546-2	c 14	N73-30389 *	NASA-CASE-MFS-21919-1	c 10	N73-25243 *
NASA-CASE-MFS-11204	c 14	N71-29134 *		NASA-CASE-MFS-20586	c 15	N71-17686 *	NASA-CASE-MFS-21931-1	c 37	N75-26372 *
NASA-CASE-MFS-11279	c 16	N71-20400 *		NASA-CASE-MFS-20589	c 25	N72-32688 *	NASA-CASE-MFS-22002-1	c 44	N76-16612 *
NASA-CASE-MFS-11492	c 06	N73-30102 *		NASA-CASE-MFS-20596	c 14	N72-17324 *	NASA-CASE-MFS-22022-1	c 37	N76-15460 *
NASA-CASE-MFS-11497	c 28	N71-16224 *		NASA-CASE-MFS-20607-1	c 37	N76-19436 *	NASA-CASE-MFS-22039-1	c 09	N75-12968 *
NASA-CASE-MFS-11537	c 14	N71-20442 *		NASA-CASE-MFS-20619	c 28	N72-11708 *	NASA-CASE-MFS-22040-1	c 35	N74-26946 *
NASA-CASE-MFS-12750	c 27	N71-16223 *		NASA-CASE-MFS-20620	c 11	N72-27262 *	NASA-CASE-MFS-22060-1	c 35	N75-29380 *
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NASA-CASE-MFS-23981-1	c 07	N83-20944 *	NASA-CASE-MFS-26060-1	c 76	N87-25862 *	NASA-CASE-MSC-12408-1	c 46	N74-13011 *
NASA-CASE-MFS-23988-1	c 33	N81-27395 *	NASA-CASE-MFS-26080-1	c 33	N87-21233 *	NASA-CASE-MSC-12411-1	c 05	N72-20096 *
NASA-CASE-MFS-23999-1	c 44	N81-24520 *	NASA-CASE-MFS-26087-1	c 35	N87-23944 *	NASA-CASE-MSC-12423-1	c 91	N76-30131 *
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NASA-CASE-MFS-25000-1	c 25	N81-19242 *	NASA-CASE-MFS-26110-1	c 37	N87-24689 *	NASA-CASE-MSC-12433	c 31	N73-14854 *
NASA-CASE-MFS-25050-1	c 71	N81-15767 *	NASA-CASE-MFS-26118-1	c 39	N87-25601 *	NASA-CASE-MSC-12458-1	c 08	N73-32081 *
NASA-CASE-MFS-25134-1	c 31	N83-31895 *	NASA-CASE-MFS-26122-1	c 72	N88-24253 *	NASA-CASE-MSC-12462-1	c 32	N74-20809 *
NASA-CASE-MFS-25139-1	c 34	N82-13376 *	NASA-CASE-MFS-26137-1	c 76	N88-24544 *	NASA-CASE-MSC-12494-1	c 32	N74-20810 *
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NASA-CASE-MFS-25208-1	c 33	N83-10345 *	NASA-CASE-MFS-26142-1	c 25	N88-23845 *	NASA-CASE-MSC-12531-1	c 35	N75-30504 *
NASA-CASE-MFS-25209-1	c 33	N83-35227 *	NASA-CASE-MFS-26144-1	c 76	N88-24545 *	NASA-CASE-MSC-12549-1	c 37	N74-27903 *
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NASA-CASE-MFS-25287-1	c 44	N82-18686 *	NASA-CASE-MFS-26185-1	c 37	N88-23979 *	NASA-CASE-MSC-12607-1	c 32	N75-21485 *
NASA-CASE-MFS-25302-1	c 33	N83-28319 *	NASA-CASE-MFS-26206-1-SB	c 76	N88-25356 *	NASA-CASE-MSC-12609-1	c 05	N73-32012 *
NASA-CASE-MFS-25302-2	c 33	N84-33660 *	NASA-CASE-MFS-26217-1	c 34	N89-14392 *	NASA-CASE-MSC-12611-1	c 12	N76-15189 *
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NASA-CASE-MFS-25323-1	c 33	N84-22886 *	NASA-CASE-MFS-26281-1	c 09	N88-28938 *	NASA-CASE-MSC-12631-1	c 24	N77-28225 *
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NASA-CASE-MFS-25405-1	c 35	N84-22929 *	NASA-CASE-MFS-26291-1	c 74	N87-17493 *	NASA-CASE-MSC-12662-1	c 33	N79-12331 *
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NASA-CASE-MSC-12737-1	c 24	N79-25142 *	NASA-CASE-MSC-16182-1	c 54	N80-10799 *	NASA-CASE-MSC-20475-1	c 37	N87-17037 *
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NASA-CASE-MSC-13332-1	c 14	N72-21408 *	NASA-CASE-MSC-16497-1	c 25	N82-12166 *	NASA-CASE-MSC-20812-1	c 34	N86-27593 *
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NASA-CASE-MSC-14939-1	c 32	N79-11264 *	NASA-CASE-MSC-20250-1	c 35	N86-19581 *	NASA-CASE-NPO-10174	c 14	N71-18465 *
NASA-CASE-MSC-15158-1	c 14	N72-17325 *	NASA-CASE-MSC-20254-1	c 16	N84-22601 *	NASA-CASE-NPO-10175	c 14	N71-18625 *
NASA-CASE-MSC-15474-1	c 15	N71-26162 *	NASA-CASE-MSC-20258-1	c 60	N84-28492 *	NASA-CASE-NPO-10185	c 10	N71-26339 *
NASA-CASE-MSC-15567-1	c 33	N73-16918 *	NASA-CASE-MSC-20261-1	c 54	N84-28484 *	NASA-CASE-NPO-10188	c 03	N71-20273 *
NASA-CASE-MSC-15626-1	c 14	N72-25411 *	NASA-CASE-MSC-20261-2	c 54	N84-23113 *	NASA-CASE-NPO-10189-1	c 33	N77-21314 *
NASA-CASE-MSC-16000-1	c 37	N78-24544 *	NASA-CASE-MSC-20275-1	c 35	N85-21595 *	NASA-CASE-NPO-10194	c 03	N71-20407 *
NASA-CASE-MSC-16043-1	c 37	N79-11402 *	NASA-CASE-MSC-20304-1	c 37	N82-31690 *	NASA-CASE-NPO-10198	c 09	N71-24806 *
NASA-CASE-MSC-16074-1	c 27	N80-26446 *	NASA-CASE-MSC-20319-1	c 37	N85-21649 *	NASA-CASE-NPO-10199	c 09	N72-17156 *
NASA-CASE-MSC-16098-1	c 51	N79-10693 *	NASA-CASE-MSC-20418-1	c 74	N86-20126 *	NASA-CASE-NPO-10201	c 08	N71-18694 *
NASA-CASE-MSC-16170-2	c 32	N84-27952 *	NASA-CASE-MSC-20467-1	c 35	N88-23966 *			

NASA-CASE-NPO-10214	c 10	N71-26577 *	NASA-CASE-NPO-10781-1	c 33	N77-21314 *	NASA-CASE-NPO-11373	c 13	N72-25323 *
NASA-CASE-NPO-10230	c 09	N71-12520 *	NASA-CASE-NPO-10790-1	c 33	N77-21316 *	NASA-CASE-NPO-11377	c 15	N73-27406 *
NASA-CASE-NPO-10231	c 07	N71-26101 *	NASA-CASE-NPO-10796	c 15	N71-27068 *	NASA-CASE-NPO-11387	c 14	N73-14429 *
NASA-CASE-NPO-10233-1	c 74	N78-33913 *	NASA-CASE-NPO-10808	c 15	N71-27432 *	NASA-CASE-NPO-11388	c 03	N72-23048 *
NASA-CASE-NPO-10234	c 06	N72-17094 *	NASA-CASE-NPO-10810	c 14	N71-27323 *	NASA-CASE-NPO-11403-1	c 33	N77-22386 *
NASA-CASE-NPO-10242	c 09	N71-24803 *	NASA-CASE-NPO-10812	c 15	N73-13464 *	NASA-CASE-NPO-11406	c 08	N73-12175 *
NASA-CASE-NPO-10244	c 15	N72-26371 *	NASA-CASE-NPO-10817-1	c 08	N73-30135 *	NASA-CASE-NPO-11417	c 15	N73-24513 *
NASA-CASE-NPO-10250	c 23	N71-16212 *	NASA-CASE-NPO-10821	c 03	N71-19545 *	NASA-CASE-NPO-11418-1	c 14	N73-13420 *
NASA-CASE-NPO-10251	c 10	N71-27365 *	NASA-CASE-NPO-10828	c 33	N72-17948 *	NASA-CASE-NPO-11426	c 07	N73-26119 *
NASA-CASE-NPO-10271	c 17	N71-16393 *	NASA-CASE-NPO-10830-1	c 27	N81-15104 *	NASA-CASE-NPO-11429-1	c 74	N77-21941 *
NASA-CASE-NPO-10298	c 12	N71-17661 *	NASA-CASE-NPO-10831	c 33	N72-20915 *	NASA-CASE-NPO-11432-2	c 35	N74-15090 *
NASA-CASE-NPO-10300	c 14	N71-17662 *	NASA-CASE-NPO-10832	c 14	N72-21405 *	NASA-CASE-NPO-11437	c 16	N72-28521 *
NASA-CASE-NPO-10301	c 07	N72-11148 *	NASA-CASE-NPO-10844	c 07	N72-20140 *	NASA-CASE-NPO-11456	c 08	N73-26176 *
NASA-CASE-NPO-10302	c 10	N71-26142 *	NASA-CASE-NPO-10851	c 07	N71-24613 *	NASA-CASE-NPO-11458A	c 20	N78-32179 *
NASA-CASE-NPO-10303	c 07	N72-22127 *	NASA-CASE-NPO-10857-1	c 33	N80-14330 *	NASA-CASE-NPO-11458	c 28	N72-23810 *
NASA-CASE-NPO-10309	c 15	N69-23190 *	NASA-CASE-NPO-10862	c 06	N72-22107 *	NASA-CASE-NPO-11479	c 15	N73-13462 *
NASA-CASE-NPO-10311	c 31	N71-15643 *	NASA-CASE-NPO-10863-2	c 06	N72-25152 *	NASA-CASE-NPO-11481	c 21	N73-13644 *
NASA-CASE-NPO-10316-1	c 37	N77-22479 *	NASA-CASE-NPO-10863	c 06	N70-11251 *	NASA-CASE-NPO-11493	c 14	N73-12447 *
NASA-CASE-NPO-10320	c 14	N71-17655 *	NASA-CASE-NPO-10866-1	c 28	N79-14228 *	NASA-CASE-NPO-11497	c 08	N73-25206 *
NASA-CASE-NPO-10331	c 09	N71-26701 *	NASA-CASE-NPO-10870-1	c 33	N77-22386 *	NASA-CASE-NPO-11510-1	c 33	N77-21315 *
NASA-CASE-NPO-10337	c 14	N71-15604 *	NASA-CASE-NPO-10872-1	c 35	N79-16246 *	NASA-CASE-NPO-11515-1	c 33	N77-13315 *
NASA-CASE-NPO-10342	c 10	N71-33407 *	NASA-CASE-NPO-10883	c 31	N72-22874 *	NASA-CASE-NPO-11548	c 07	N73-26118 *
NASA-CASE-NPO-10343	c 07	N71-27341 *	NASA-CASE-NPO-10890	c 11	N73-12265 *	NASA-CASE-NPO-11556	c 12	N72-25292 *
NASA-CASE-NPO-10344	c 10	N71-26544 *	NASA-CASE-NPO-10893	c 27	N72-22710 *	NASA-CASE-NPO-11559	c 28	N73-24784 *
NASA-CASE-NPO-10348	c 10	N71-12554 *	NASA-CASE-NPO-10985	c 14	N73-20478 *	NASA-CASE-NPO-11569	c 10	N73-26229 *
NASA-CASE-NPO-10351	c 08	N71-12503 *	NASA-CASE-NPO-10998-1	c 06	N73-32029 *	NASA-CASE-NPO-11572	c 07	N73-16121 *
NASA-CASE-NPO-10373	c 03	N71-18698 *	NASA-CASE-NPO-10999-1	c 06	N73-32029 *	NASA-CASE-NPO-11575-1	c 74	N81-19896 *
NASA-CASE-NPO-10388	c 07	N71-24622 *	NASA-CASE-NPO-11001	c 07	N72-21118 *	NASA-CASE-NPO-11593-1	c 07	N73-28012 *
NASA-CASE-NPO-10401	c 03	N72-20033 *	NASA-CASE-NPO-11002	c 14	N72-22441 *	NASA-CASE-NPO-11609-2	c 27	N77-31308 *
NASA-CASE-NPO-10404	c 03	N71-12255 *	NASA-CASE-NPO-11012	c 15	N72-11391 *	NASA-CASE-NPO-11623-1	c 71	N74-31148 *
NASA-CASE-NPO-10412	c 09	N71-28421 *	NASA-CASE-NPO-11013	c 11	N72-22247 *	NASA-CASE-NPO-11628-1	c 07	N73-30113 *
NASA-CASE-NPO-10416	c 12	N71-27332 *	NASA-CASE-NPO-11016	c 08	N72-31226 *	NASA-CASE-NPO-11630	c 08	N72-33172 *
NASA-CASE-NPO-10417	c 16	N71-33410 *	NASA-CASE-NPO-11018	c 08	N72-21200 *	NASA-CASE-NPO-11631	c 10	N73-12244 *
NASA-CASE-NPO-10424-1	c 27	N81-24258 *	NASA-CASE-NPO-11021	c 03	N72-20032 *	NASA-CASE-NPO-11659-1	c 35	N74-11283 *
NASA-CASE-NPO-10431	c 15	N71-29132 *	NASA-CASE-NPO-11023	c 09	N72-17155 *	NASA-CASE-NPO-11661	c 07	N73-14130 *
NASA-CASE-NPO-10440	c 15	N72-21466 *	NASA-CASE-NPO-11031	c 07	N71-33606 *	NASA-CASE-NPO-11682-1	c 35	N74-15127 *
NASA-CASE-NPO-10447	c 06	N70-11252 *	NASA-CASE-NPO-11036	c 15	N72-24522 *	NASA-CASE-NPO-11686	c 14	N73-25462 *
NASA-CASE-NPO-10467	c 23	N71-26654 *	NASA-CASE-NPO-11059	c 15	N72-17454 *	NASA-CASE-NPO-11703-1	c 10	N73-32144 *
NASA-CASE-NPO-10468	c 23	N71-33229 *	NASA-CASE-NPO-11064	c 07	N72-11150 *	NASA-CASE-NPO-11707	c 07	N73-25161 *
NASA-CASE-NPO-10539	c 07	N71-11285 *	NASA-CASE-NPO-11078	c 09	N72-25262 *	NASA-CASE-NPO-11738-1	c 09	N73-30185 *
NASA-CASE-NPO-10542	c 09	N72-27228 *	NASA-CASE-NPO-11082	c 08	N72-22167 *	NASA-CASE-NPO-11743-1	c 28	N74-27425 *
NASA-CASE-NPO-10548	c 16	N71-24831 *	NASA-CASE-NPO-11087	c 23	N71-29125 *	NASA-CASE-NPO-11749	c 14	N73-28486 *
NASA-CASE-NPO-10556	c 14	N71-27185 *	NASA-CASE-NPO-11088	c 08	N71-29034 *	NASA-CASE-NPO-11751	c 07	N73-24176 *
NASA-CASE-NPO-10557	c 27	N78-17214 *	NASA-CASE-NPO-11091	c 18	N72-22567 *	NASA-CASE-NPO-11758-1	c 31	N74-23065 *
NASA-CASE-NPO-10560	c 08	N72-22166 *	NASA-CASE-NPO-11095	c 15	N72-25455 *	NASA-CASE-NPO-11771	c 03	N73-20040 *
NASA-CASE-NPO-10567	c 08	N71-24633 *	NASA-CASE-NPO-11103-1	c 35	N77-27367 *	NASA-CASE-NPO-11775	c 26	N72-28761 *
NASA-CASE-NPO-10575	c 03	N72-25019 *	NASA-CASE-NPO-11104	c 08	N72-22165 *	NASA-CASE-NPO-11806-1	c 44	N74-19693 *
NASA-CASE-NPO-10591	c 03	N72-22041 *	NASA-CASE-NPO-11106	c 14	N70-34697 *	NASA-CASE-NPO-11820-1	c 32	N74-19788 *
NASA-CASE-NPO-10595	c 10	N71-25917 *	NASA-CASE-NPO-11118	c 03	N72-25021 *	NASA-CASE-NPO-11821-1	c 08	N73-26175 *
NASA-CASE-NPO-10596	c 06	N71-25929 *	NASA-CASE-NPO-11120-1	c 34	N74-18552 *	NASA-CASE-NPO-11850-1	c 32	N74-12912 *
NASA-CASE-NPO-10606	c 15	N72-25451 *	NASA-CASE-NPO-11129	c 09	N72-33204 *	NASA-CASE-NPO-11856-1	c 36	N74-15145 *
NASA-CASE-NPO-10607	c 09	N71-27232 *	NASA-CASE-NPO-11130	c 08	N72-20176 *	NASA-CASE-NPO-11861-1	c 36	N74-20009 *
NASA-CASE-NPO-10617-1	c 35	N74-22095 *	NASA-CASE-NPO-11133	c 10	N72-20223 *	NASA-CASE-NPO-11868	c 10	N73-20254 *
NASA-CASE-NPO-10619-1	c 35	N77-21393 *	NASA-CASE-NPO-11134	c 09	N72-21246 *	NASA-CASE-NPO-11880	c 28	N73-24783 *
NASA-CASE-NPO-10625	c 09	N71-26182 *	NASA-CASE-NPO-11138	c 03	N70-34646 *	NASA-CASE-NPO-11905-1	c 33	N74-12887 *
NASA-CASE-NPO-10629	c 08	N72-18184 *	NASA-CASE-NPO-11140	c 15	N72-17455 *	NASA-CASE-NPO-11919-1	c 35	N74-11284 *
NASA-CASE-NPO-10633	c 03	N72-28025 *	NASA-CASE-NPO-11147	c 14	N72-27408 *	NASA-CASE-NPO-11921-1	c 32	N74-30523 *
NASA-CASE-NPO-10634	c 23	N72-25619 *	NASA-CASE-NPO-11150	c 35	N78-17359 *	NASA-CASE-NPO-11932-1	c 35	N74-23040 *
NASA-CASE-NPO-10636	c 08	N72-25210 *	NASA-CASE-NPO-11156-2	c 33	N75-31331 *	NASA-CASE-NPO-11941-1	c 10	N73-27171 *
NASA-CASE-NPO-10637	c 15	N72-12409 *	NASA-CASE-NPO-11161	c 08	N72-25207 *	NASA-CASE-NPO-11942-1	c 33	N73-32818 *
NASA-CASE-NPO-10646	c 15	N71-28467 *	NASA-CASE-NPO-11177	c 15	N72-17453 *	NASA-CASE-NPO-11945-1	c 36	N76-18427 *
NASA-CASE-NPO-10649	c 07	N71-24840 *	NASA-CASE-NPO-11190	c 03	N71-34044 *	NASA-CASE-NPO-11948-1	c 33	N74-32712 *
NASA-CASE-NPO-10671	c 15	N72-20443 *	NASA-CASE-NPO-11191-1	c 33	N77-22386 *	NASA-CASE-NPO-11951-1	c 37	N74-21065 *
NASA-CASE-NPO-10677	c 05	N72-11084 *	NASA-CASE-NPO-11194	c 08	N72-25209 *	NASA-CASE-NPO-11954-1	c 35	N78-29421 *
NASA-CASE-NPO-10679	c 15	N72-21462 *	NASA-CASE-NPO-11201	c 14	N72-27409 *	NASA-CASE-NPO-11961-1	c 44	N76-18643 *
NASA-CASE-NPO-10680	c 31	N73-14855 *	NASA-CASE-NPO-11202	c 15	N72-25450 *	NASA-CASE-NPO-11962-1	c 33	N74-10194 *
NASA-CASE-NPO-10682	c 15	N70-34699 *	NASA-CASE-NPO-11203	c 10	N72-20224 *	NASA-CASE-NPO-11966-1	c 33	N74-17928 *
NASA-CASE-NPO-10691	c 14	N71-26199 *	NASA-CASE-NPO-11210	c 11	N72-20244 *	NASA-CASE-NPO-11975-1	c 28	N74-33209 *
NASA-CASE-NPO-10694	c 09	N72-20200 *	NASA-CASE-NPO-11213	c 15	N73-20514 *	NASA-CASE-NPO-11978	c 31	N78-17238 *
NASA-CASE-NPO-10700	c 07	N71-33613 *	NASA-CASE-NPO-11222	c 15	N72-25456 *	NASA-CASE-NPO-12000	c 27	N72-25699 *
NASA-CASE-NPO-10701	c 06	N71-28620 *	NASA-CASE-NPO-11239	c 14	N73-12446 *	NASA-CASE-NPO-12015	c 27	N73-16764 *
NASA-CASE-NPO-10704	c 15	N72-20445 *	NASA-CASE-NPO-11243	c 07	N72-20154 *	NASA-CASE-NPO-12061-1	c 27	N76-16228 *
NASA-CASE-NPO-10711-1	c 35	N77-21392 *	NASA-CASE-NPO-11253	c 09	N72-17157 *	NASA-CASE-NPO-12070-1	c 28	N73-32606 *
NASA-CASE-NPO-10714	c 06	N69-31244 *	NASA-CASE-NPO-11264	c 07	N72-25174 *	NASA-CASE-NPO-12072	c 28	N72-22772 *
NASA-CASE-NPO-10716	c 09	N71-24892 *	NASA-CASE-NPO-11282	c 10	N73-16205 *	NASA-CASE-NPO-12087-1	c 74	N81-19898 *
NASA-CASE-NPO-10721	c 15	N72-27484 *	NASA-CASE-NPO-11283	c 09	N72-25260 *	NASA-CASE-NPO-12106	c 09	N73-15235 *
NASA-CASE-NPO-10722	c 09	N72-20199 *	NASA-CASE-NPO-11291-1	c 14	N73-30388 *	NASA-CASE-NPO-12107	c 08	N71-27255 *
NASA-CASE-NPO-10737	c 28	N72-11709 *	NASA-CASE-NPO-11302-1	c 07	N73-13149 *	NASA-CASE-NPO-12109	c 11	N72-22245 *
NASA-CASE-NPO-10743	c 08	N72-21199 *	NASA-CASE-NPO-11302-2	c 32	N74-10132 *	NASA-CASE-NPO-12119-1	c 52	N75-15270 *
NASA-CASE-NPO-10745	c 08	N72-22164 *	NASA-CASE-NPO-11304	c 14	N73-26430 *	NASA-CASE-NPO-12122-1	c 24	N76-14203 *
NASA-CASE-NPO-10747	c 03	N72-22042 *	NASA-CASE-NPO-11307-1	c 10	N73-30205 *	NASA-CASE-NPO-12127-1	c 91	N74-13130 *
NASA-CASE-NPO-10748	c 08	N72-20177 *	NASA-CASE-NPO-11311	c 14	N72-25414 *	NASA-CASE-NPO-12128-1	c 14	N73-32317 *
NASA-CASE-NPO-10753	c 03	N72-26031 *	NASA-CASE-NPO-11317-2	c 36	N74-13205 *	NASA-CASE-NPO-12130-1	c 25	N75-14844 *
NASA-CASE-NPO-10755	c 15	N71-27084 *	NASA-CASE-NPO-11322	c 06	N72-25146 *	NASA-CASE-NPO-12131-3	c 37	N80-18400 *
NASA-CASE-NPO-10758	c 14	N73-14427 *	NASA-CASE-NPO-11330	c 33	N73-26958 *	NASA-CASE-NPO-12134-1	c 33	N76-31409 *
NASA-CASE-NPO-10760	c 09	N72-25254 *	NASA-CASE-NPO-11333	c 08	N72-22162 *	NASA-CASE-NPO-12142-1	c 38	N76-28563 *
NASA-CASE-NPO-10764-1	c 14	N73-14428 *	NASA-CASE-NPO-11336-1	c 76	N79-16678 *	NASA-CASE-NPO-12148-1	c 44	N78-27515 *
NASA-CASE-NPO-10764-2	c 35	N75-25122 *	NASA-CASE-NPO-11337-1	c 74	N81-19896 *	NASA-CASE-NPO-13044-1	c 35	N74-15094 *
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NASA-CASE-NPO-10767-1	c 06	N73-33076 *	NASA-CASE-NPO-11340	c 15	N72-33477 *	NASA-CASE-NPO-13058-1	c 37	N77-22480 *
NASA-CASE-NPO-10767-2	c 06	N72-27151 *	NASA-CASE-NPO-11342	c 09	N72-25248 *	NASA-CASE-NPO-13059-1	c 37	N76-20480 *
NASA-CASE-NPO-10768-2	c 06	N72-27144 *	NASA-CASE-NPO-11358	c 07	N72-25172 *	NASA-CASE-NPO-13063-1	c 25	N76-18245 *
NASA-CASE-NPO-10768	c 06	N71-27254 *	NASA-CASE-NPO-11361	c 07	N72-32169 *	NASA-CASE-NPO-13064-1	c 33	N79-11314 *
NASA-CASE-NPO-10769	c 08	N72-11171 *	NASA-CASE-NPO-11366	c 11	N73-26238 *	NASA-CASE-NPO-13065-1	c 52	N74-26625 *
NASA-CASE-NPO-10774	c 06	N72-17095 *	NASA-CASE-NPO-11369	c 15	N73-13467 *	NASA-CASE-NPO-13067-1	c 60	N76-18800 *
NASA-CASE-NPO-10778	c 14	N72-11364 *	NASA-CASE-NPO-11371	c 08	N73-12177 *	NASA-CASE-NPO-13081-1	c 33	N74-22814 *

NASA-CASE-NPO-13086-1	c 15	N73-12495 *	#	NASA-CASE-NPO-13561-1	c 44	N77-10636 *	NASA-CASE-NPO-13993-1	c 72	N79-13826 *
NASA-CASE-NPO-13087-2	c 44	N76-31666 *		NASA-CASE-NPO-13566-1	c 25	N77-32255 *	NASA-CASE-NPO-13999-1	c 35	N78-18395 *
NASA-CASE-NPO-13091-1	c 09	N73-12214 *	#	NASA-CASE-NPO-13567-1	c 44	N76-29701 *	NASA-CASE-NPO-14000-1	c 33	N79-24254 *
NASA-CASE-NPO-13096-1	c 37	N77-22480 *		NASA-CASE-NPO-13568-1	c 32	N76-21365 *	NASA-CASE-NPO-14001-1	c 27	N81-14076 *
NASA-CASE-NPO-13103-1	c 32	N74-20811 *		NASA-CASE-NPO-13569-2	c 35	N79-14348 *	NASA-CASE-NPO-14005-1	c 71	N79-20827 *
NASA-CASE-NPO-13105-1	c 37	N74-21060 *		NASA-CASE-NPO-13579-1	c 44	N78-17460 *	NASA-CASE-NPO-14009-1	c 32	N79-13214 *
NASA-CASE-NPO-13112-1	c 73	N74-26767 *		NASA-CASE-NPO-13579-2	c 44	N79-24433 *	NASA-CASE-NPO-14014-1	c 37	N79-10420 *
NASA-CASE-NPO-13114-2	c 73	N78-28913 *		NASA-CASE-NPO-13579-3	c 44	N79-24432 *	NASA-CASE-NPO-14019-1	c 32	N79-14268 *
NASA-CASE-NPO-13120-1	c 27	N76-15311 *		NASA-CASE-NPO-13579-4	c 44	N79-14529 *	NASA-CASE-NPO-14021-2	c 27	N80-16163 *
NASA-CASE-NPO-13121-1	c 73	N77-18891 *		NASA-CASE-NPO-13581-2	c 44	N78-31525 *	NASA-CASE-NPO-14022-1	c 32	N78-31321 *
NASA-CASE-NPO-13125-1	c 33	N75-19519 *		NASA-CASE-NPO-13587-1	c 32	N77-32342 *	NASA-CASE-NPO-14035-1	c 32	N83-19968 *
NASA-CASE-NPO-13127-1	c 35	N74-23040 *		NASA-CASE-NPO-13604-1	c 35	N76-31490 *	NASA-CASE-NPO-14054-1	c 32	N82-12297 *
NASA-CASE-NPO-13131-1	c 36	N75-19652 *		NASA-CASE-NPO-13606-2	c 35	N80-18364 *	NASA-CASE-NPO-14056-1	c 33	N79-24257 *
NASA-CASE-NPO-13137-1	c 27	N80-32514 *		NASA-CASE-NPO-13613-1	c 37	N76-29590 *	NASA-CASE-NPO-14058-1	c 44	N79-18443 *
NASA-CASE-NPO-13138-1	c 33	N74-17927 *		NASA-CASE-NPO-13619-1	c 37	N78-16369 *	NASA-CASE-NPO-14066-1	c 74	N79-34011 *
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NASA-CASE-NPO-14749-1	c 32	N81-14186 *	NASA-CASE-NPO-15722-1	c 35	N85-29212 *	NASA-CASE-NPO-16985-1-CU	c 31	N88-24814 *
NASA-CASE-NPO-14782-1	c 36	N82-28616 *	NASA-CASE-NPO-15743-1	c 32	N85-29118 *	NASA-CASE-NPO-16987-1-CU	c 32	N88-30001 *
NASA-CASE-NPO-14813-1	c 74	N82-24072 *	NASA-CASE-NPO-15753-1	c 27	N84-33589 *	NASA-CASE-NPO-17022-1-CU	c 29	N87-25489 *
NASA-CASE-NPO-14831-1	c 76	N82-30105 *	NASA-CASE-NPO-15759-1	c 35	N85-21596 *	NASA-CASE-NPO-17024-1-CU	c 35	N88-24943 *
NASA-CASE-NPO-14839-1	c 35	N82-15381 *	NASA-CASE-NPO-15767-1	c 23	N84-16255 *	NASA-CASE-NPO-17058-1-CU	c 62	N87-25803 *
NASA-CASE-NPO-14845-1	c 27	N82-28442 *	NASA-CASE-NPO-15772-1	c 76	N85-29800 *	NASA-CASE-NPO-17068-1-CU	c 35	N88-29151 *
NASA-CASE-NPO-14857-1	c 27	N83-19900 *	NASA-CASE-NPO-15786-1	c 76	N84-35112 *	NASA-CASE-NPO-17085-1-CU	c 31	N89-12785 *
NASA-CASE-NPO-14864-1	c 74	N83-19597 *	NASA-CASE-NPO-15789-1	c 31	N83-19947 *	NASA-CASE-NPO-17086-1-CU	c 35	N89-14422 *
NASA-CASE-NPO-14902-1	c 25	N82-29371 *	NASA-CASE-NPO-15790-1	c 36	N85-21631 *	NASA-CASE-NPO-17108-1-CU	c 33	N87-27926 *
NASA-CASE-NPO-14936-1	c 47	N83-32232 *	NASA-CASE-NPO-15800-2	c 76	N87-23286 *	NASA-CASE-NPO-17134-1-CU	c 33	N88-24864 *
NASA-CASE-NPO-14940-1	c 33	N83-31954 *	NASA-CASE-NPO-15801-1	c 74	N85-23396 *	NASA-CASE-NPO-17139-1-CU	c 74	N88-25301 *
NASA-CASE-NPO-14987-1	c 24	N83-33950 *	NASA-CASE-NPO-15805-1	c 74	N84-28590 *	NASA-CASE-NPO-17140-1-CU	c 74	N89-14077 *
NASA-CASE-NPO-14998-1	c 32	N83-18975 *	NASA-CASE-NPO-15808-1	c 44	N84-34792 *	NASA-CASE-NPO-17143-1-CU	c 31	N89-14351 *
NASA-CASE-NPO-15015-1	c 25	N82-28368 *	NASA-CASE-NPO-15811-1	c 76	N84-12968 *	NASA-CASE-NPO-17144-1-CU	c 74	N88-25305 *
NASA-CASE-NPO-15021-1	c 36	N83-10417 *	NASA-CASE-NPO-15813-1	c 76	N85-30922 *	NASA-CASE-NPO-17157-1-CU	c 33	N88-26596 *
NASA-CASE-NPO-15024-1	c 32	N84-27951 *	NASA-CASE-NPO-15813-2	c 76	N87-15882 *	NASA-CASE-NPO-17184-1-CU	c 32	N88-26541 *
NASA-CASE-NPO-15036-1	c 74	N82-19029 *	NASA-CASE-NPO-15851-1	c 37	N85-21652 *	NASA-CASE-NPO-17196-1-CU	c 32	N88-29076 *
NASA-CASE-NPO-15037-2	c 37	N85-29282 *	NASA-CASE-NPO-15865-1	c 74	N85-34629 *	NASA-CASE-NPO-17203-1-CU	c 34	N88-13728 *
NASA-CASE-NPO-15066-1	c 33	N82-29538 *	NASA-CASE-NPO-15890-1-CU	c 33	N85-29143 *	NASA-CASE-NPO-17207-1-CU	c 74	N88-25304 *
NASA-CASE-NPO-15070-1	c 31	N83-35176 *	NASA-CASE-NPO-15904-1	c 76	N86-28760 *	NASA-CASE-NPO-17233-1-CU	c 33	N88-29095 *
NASA-CASE-NPO-15071-1	c 44	N82-16475 *	NASA-CASE-NPO-15920-1	c 33	N85-21493 *	NASA-CASE-NPO-17249-1-CU	c 32	N88-23924 *
NASA-CASE-NPO-15100-1	c 44	N84-14583 *	NASA-CASE-NPO-15924-1	c 25	N85-35203 *	NASA-CASE-NPO-17259-1-CU	c 76	N88-25358 *
NASA-CASE-NPO-15102-1	c 25	N81-25159 *	NASA-CASE-NPO-15928-1	c 26	N85-29005 *	NASA-CASE-NPO-17278-1-CU	c 31	N88-24818 *
NASA-CASE-NPO-15111-1	c 36	N82-29589 *	NASA-CASE-NPO-15939-1	c 43	N86-19711 *	NASA-CASE-NPO-17280-1-CU	c 17	N88-27220 *
NASA-CASE-NPO-15115-1	c 37	N82-24493 *	NASA-CASE-NPO-15949-1	c 85	N85-34722 *	NASA-CASE-NPO-17282-1-CU	c 36	N89-12856 *
NASA-CASE-NPO-15155-1	c 74	N85-22139 *	NASA-CASE-NPO-15960-1	c 37	N86-19604 *	NASA-CASE-NPO-17291-1-CU	c 34	N88-23946 *
NASA-CASE-NPO-15161-1	c 33	N84-16456 *	NASA-CASE-NPO-15980-1	c 36	N85-30305 *	NASA-CASE-NPO-17310-1-CU	c 17	N88-28946 *
NASA-CASE-NPO-15179-1	c 44	N82-26777 *	NASA-CASE-NPO-15982-1	c 60	N87-21591 *	NASA-CASE-NPO-17325-1-CU	c 32	N88-24846 *
NASA-CASE-NPO-15183-1	c 44	N82-26776 *	NASA-CASE-NPO-16000-1	c 36	N85-29264 *	NASA-CASE-NPO-17334-1-CU	c 31	N88-23917 *
NASA-CASE-NPO-15197-1	c 52	N83-25346 *	NASA-CASE-NPO-16021-1	c 33	N85-30187 *	NASA-CASE-NPO-17354-1-CU	c 37	N88-24973 *
NASA-CASE-NPO-15201-1	c 36	N83-35350 *	NASA-CASE-NPO-16022-1	c 71	N85-22105 *	NASA-CASE-NPO-17390-1-CU	c 35	N88-24944 *
NASA-CASE-NPO-15202-1	c 27	N83-34043 *	NASA-CASE-NPO-16027-1	c 35	N85-21597 *	NASA-CASE-NPO-17399-1-CU	c 76	N89-14120 *
NASA-CASE-NPO-15210-1	c 25	N84-22709 *	NASA-CASE-NPO-16030-1	c 36	N84-25037 *	NASA-CASE-NPO-17436-1-CU	c 35	N89-13764 *
NASA-CASE-NPO-15213-1	c 51	N83-17045 *	NASA-CASE-NPO-16038-1	c 37	N86-19605 *	NASA-CASE-NPO-17453-1-CU	c 37	N89-13787 *
NASA-CASE-NPO-15220-1	c 45	N85-25217 *	NASA-CASE-NPO-16045-1	c 76	N87-13313 *			
NASA-CASE-NPO-15227-1	c 37	N81-33482 *	NASA-CASE-NPO-16061-1-CU	c 72	N87-21660 *	NASA-CASE-NSTL-10	c 45	N84-12654 *
NASA-CASE-NPO-15251-1	c 31	N83-31897 *	NASA-CASE-NPO-16103-1	c 27	N85-29043 *			
NASA-CASE-NPO-15264-1	c 04	N84-27713 *	NASA-CASE-NPO-16112-1	c 33	N86-19516 *	NASA-CASE-NUC-10107-1	c 33	N74-17930 *
NASA-CASE-NPO-15269-1	c 44	N82-29710 *	NASA-CASE-NPO-16116-2	c 60	N88-29310 *			
NASA-CASE-NPO-15292-1	c 35	N83-27184 *	NASA-CASE-NPO-16135-1	c 25	N83-24572 *	NASA-CASE-WLP-10002	c 15	N72-17451 *
NASA-CASE-NPO-15295-1	c 60	N85-21992 *	NASA-CASE-NPO-16142-1-CU	c 35	N86-20752 *	NASA-CASE-WLP-10055-1	c 35	N84-28015 *
NASA-CASE-NPO-15304-1	c 25	N83-31743 *	NASA-CASE-NPO-16147-1-CU	c 71	N85-29693 *	NASA-CASE-WLP-10055-2	c 35	N85-21598 *
NASA-CASE-NPO-15334-1	c 71	N83-35781 *	NASA-CASE-NPO-16155-1	c 44	N85-30475 *			
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NASA-CASE-NPO-15342-1	c 60	N83-32342 *	NASA-CASE-NPO-16203-1	c 23	N85-35227 *	NASA-CASE-WOO-00625	c 37	N78-17385 *
NASA-CASE-NPO-15345-1	c 74	N84-23247 *	NASA-CASE-NPO-16233-1	c 37	N86-20801 *			
NASA-CASE-NPO-15351-1	c 06	N83-10040 *	NASA-CASE-NPO-16236-1	c 44	N86-27706 *	NASA-CASE-XAC-00001	c 15	N71-28952 *
NASA-CASE-NPO-15351-2	c 06	N84-34443 *	NASA-CASE-NPO-16256-1	c 32	N87-21207 *	NASA-CASE-XAC-00030	c 14	N70-34820 *
NASA-CASE-NPO-15358-1	c 33	N83-27126 *	NASA-CASE-NPO-16257-1	c 31	N85-29082 *	NASA-CASE-XAC-00042	c 14	N70-34816 *
NASA-CASE-NPO-15375-1	c 74	N84-11921 *	NASA-CASE-NPO-16271-1	c 35	N86-25753 *	NASA-CASE-XAC-00048	c 02	N71-29128 *
NASA-CASE-NPO-15388-1	c 44	N84-28203 *	NASA-CASE-NPO-16299-1	c 33	N87-14594 *	NASA-CASE-XAC-00060	c 09	N70-39915 *
NASA-CASE-NPO-15398-1	c 35	N84-22931 *	NASA-CASE-NPO-16306-1-CU	c 76	N85-30934 *	NASA-CASE-XAC-00073	c 14	N70-34813 *
NASA-CASE-NPO-15400-1	c 34	N83-31993 *	NASA-CASE-NPO-16321-1-CU	c 37	N87-17034 *	NASA-CASE-XAC-00074	c 15	N70-34817 *
NASA-CASE-NPO-15401-1	c 32	N83-27085 *	NASA-CASE-NPO-16337-1-CU	c 33	N87-22894 *	NASA-CASE-XAC-00086	c 09	N70-33182 *
NASA-CASE-NPO-15419-2	c 44	N85-30474 *	NASA-CASE-NPO-16372-1	c 72	N86-33127 *	NASA-CASE-XAC-00139	c 02	N70-34856 *
NASA-CASE-NPO-15423-1	c 35	N84-28016 *	NASA-CASE-NPO-16392-1	c 25	N86-25428 *	NASA-CASE-XAC-00319	c 25	N70-41628 *
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NASA-CASE-NPO-15430-1	c 46	N85-21846 *	NASA-CASE-NPO-16402-2	c 33	N88-24862 *	NASA-CASE-XAC-00404	c 08	N70-40125 *
NASA-CASE-NPO-15432-1	c 32	N85-29117 *	NASA-CASE-NPO-16414-1-CU	c 32	N87-25511 *	NASA-CASE-XAC-00405	c 05	N70-41819 *
NASA-CASE-NPO-15433-1	c 32	N85-21428 *	NASA-CASE-NPO-16420-1	c 33	N86-20681 *	NASA-CASE-XAC-00435	c 09	N70-35440 *
NASA-CASE-NPO-15435-1	c 71	N83-36846 *	NASA-CASE-NPO-16423-1-CU	c 37	N87-21334 *	NASA-CASE-XAC-00472	c 15	N70-40180 *
NASA-CASE-NPO-15453-1	c 71	N83-32515 *	NASA-CASE-NPO-16433-1	c 36	N87-23961 *	NASA-CASE-XAC-00648	c 14	N70-40400 *
NASA-CASE-NPO-15458-1	c 25	N84-12262 *	NASA-CASE-NPO-16461-1CU	c 60	N86-23283 *	NASA-CASE-XAC-00731	c 11	N71-15960 *



NASA-CASE-XAC-00812	c 14	N71-15598 *	NASA-CASE-XGS-00823	c 10	N71-15910 *	NASA-CASE-XGS-04224	c 10	N71-26418 *
NASA-CASE-XAC-00942	c 10	N71-16042 *	NASA-CASE-XGS-00824	c 15	N71-16078 *	NASA-CASE-XGS-04227	c 15	N71-21744 *
NASA-CASE-XAC-01101	c 14	N70-41957 *	NASA-CASE-XGS-00829-1	c 44	N79-19447 *	NASA-CASE-XGS-04393	c 21	N71-214159 *
NASA-CASE-XAC-01158	c 15	N71-23051 *	NASA-CASE-XGS-00886	c 03	N71-11053 *	NASA-CASE-XGS-04478	c 14	N71-24233 *
NASA-CASE-XAC-01404	c 05	N70-41581 *	NASA-CASE-XGS-00938	c 32	N70-41367 *	NASA-CASE-XGS-04480	c 16	N69-27491 * #
NASA-CASE-XAC-01591	c 31	N71-17729 *	NASA-CASE-XGS-00963	c 15	N69-39735 * #	NASA-CASE-XGS-04531	c 03	N69-24267 * #
NASA-CASE-XAC-01662	c 14	N71-23037 *	NASA-CASE-XGS-01013	c 14	N71-23725 *	NASA-CASE-XGS-04548	c 15	N71-24045 *
NASA-CASE-XAC-01677	c 09	N71-20816 *	NASA-CASE-XGS-01021	c 08	N71-21042 *	NASA-CASE-XGS-04554	c 15	N69-39786 * #
NASA-CASE-XAC-02058	c 02	N71-16087 *	NASA-CASE-XGS-01022	c 07	N71-16088 *	NASA-CASE-XGS-04765	c 08	N71-18693 *
NASA-CASE-XAC-02405	c 09	N71-16089 *	NASA-CASE-XGS-01023	c 14	N71-22992 *	NASA-CASE-XGS-04766	c 08	N71-18602 *
NASA-CASE-XAC-02407	c 14	N69-27423 * #	NASA-CASE-XGS-01036	c 14	N70-40003 *	NASA-CASE-XGS-04767	c 08	N71-12494 *
NASA-CASE-XAC-02807	c 09	N71-23021 *	NASA-CASE-XGS-01052	c 14	N71-15992 *	NASA-CASE-XGS-04768	c 08	N71-19437 *
NASA-CASE-XAC-02877	c 14	N70-41681 *	NASA-CASE-XGS-01110	c 07	N69-24334 * #	NASA-CASE-XGS-04799	c 18	N71-24183 *
NASA-CASE-XAC-02970	c 14	N69-39896 * #	NASA-CASE-XGS-01118	c 10	N71-23662 *	NASA-CASE-XGS-04808	c 03	N69-25146 * #
NASA-CASE-XAC-02981	c 14	N71-21072 *	NASA-CASE-XGS-01143	c 31	N71-15647 *	NASA-CASE-XGS-04879	c 14	N71-20428 *
NASA-CASE-XAC-03107	c 23	N71-16098 *	NASA-CASE-XGS-01155	c 10	N71-21483 *	NASA-CASE-XGS-04987	c 08	N71-20571 *
NASA-CASE-XAC-03392	c 03	N70-41954 *	NASA-CASE-XGS-01159	c 21	N71-10678 *	NASA-CASE-XGS-04993	c 14	N71-17574 *
NASA-CASE-XAC-03740	c 14	N71-26135 *	NASA-CASE-XGS-01222	c 10	N71-20841 *	NASA-CASE-XGS-04994	c 09	N69-21543 * #
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NASA-CASE-XAC-04030	c 10	N71-19472 *	NASA-CASE-XGS-01230	c 08	N71-19544 *	NASA-CASE-XGS-05003	c 09	N69-24318 * #
NASA-CASE-XAC-04031	c 08	N71-18594 *	NASA-CASE-XGS-01231	c 14	N70-41676 *	NASA-CASE-XGS-05180	c 18	N71-25881 *
NASA-CASE-XAC-04458	c 14	N71-24232 *	NASA-CASE-XGS-01245-1	c 35	N79-33449 *	NASA-CASE-XGS-05211	c 07	N69-39980 * #
NASA-CASE-XAC-04885	c 14	N71-23790 *	NASA-CASE-XGS-01286-1	c 37	N79-33469 *	NASA-CASE-XGS-05289	c 09	N71-19470 *
NASA-CASE-XAC-04886-1	c 14	N71-20439 *	NASA-CASE-XGS-01293-1	c 35	N79-33450 *	NASA-CASE-XGS-05290	c 09	N71-25999 *
NASA-CASE-XAC-05333	c 11	N71-22875 *	NASA-CASE-XGS-01331	c 14	N71-22996 *	NASA-CASE-XGS-05291	c 23	N71-16341 *
NASA-CASE-XAC-05422	c 04	N71-23185 *	NASA-CASE-XGS-01395	c 02	N69-21529 * #	NASA-CASE-XGS-05422	c 03	N71-19438 *
NASA-CASE-XAC-05462-2	c 10	N72-17171 *	NASA-CASE-XGS-01418	c 09	N71-23573 *	NASA-CASE-XGS-05434	c 03	N71-20491 *
NASA-CASE-XAC-05506-1	c 24	N71-16095 *	NASA-CASE-XGS-01419	c 03	N70-41864 *	NASA-CASE-XGS-05441	c 10	N71-22962 *
NASA-CASE-XAC-05632	c 32	N71-23971 *	NASA-CASE-XGS-01451	c 09	N71-10677 *	NASA-CASE-XGS-05532	c 06	N71-17705 *
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NASA-CASE-XAC-05706	c 05	N71-12342 *	NASA-CASE-XGS-01475	c 03	N71-11058 *	NASA-CASE-XGS-05534	c 23	N71-16355 *
NASA-CASE-XAC-05802	c 11	N71-18578 *	NASA-CASE-XGS-01504	c 16	N70-41578 *	NASA-CASE-XGS-05579	c 31	N71-15676 *
NASA-CASE-XAC-06029-1	c 31	N71-24813 *	NASA-CASE-XGS-01513	c 03	N71-23336 *	NASA-CASE-XGS-05582	c 07	N69-27460 * #
NASA-CASE-XAC-06302	c 08	N71-19763 *	NASA-CASE-XGS-01537	c 07	N71-23405 *	NASA-CASE-XGS-05584-1	c 25	N82-29370 * #
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NASA-CASE-XAC-07043	c 05	N71-23161 *	NASA-CASE-XGS-01590	c 07	N71-23292 *	NASA-CASE-XGS-05715	c 23	N71-16100 *
NASA-CASE-XAC-08494	c 30	N71-15990 *	NASA-CASE-XGS-01593	c 03	N70-35408 *	NASA-CASE-XGS-05718	c 26	N71-16037 *
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NASA-CASE-XAC-08981	c 09	N69-39897 * #	NASA-CASE-XGS-01674	c 03	N71-29129 *	NASA-CASE-XGS-06226	c 10	N71-25950 *
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NASA-CASE-XAC-10019	c 15	N71-23809 *	NASA-CASE-XGS-01784	c 10	N71-20782 *	NASA-CASE-XGS-06628	c 24	N71-16213 *
NASA-CASE-XAC-10607	c 10	N71-23669 *	NASA-CASE-XGS-01812	c 07	N71-23001 *	NASA-CASE-XGS-07375-1	c 25	N82-29370 *
NASA-CASE-XAC-10608-1	c 09	N71-12517 *	NASA-CASE-XGS-01881	c 09	N70-40123 *	NASA-CASE-XGS-07397-1	c 25	N82-29370 *
NASA-CASE-XAC-10768	c 09	N71-18830 *	NASA-CASE-XGS-01971	c 15	N71-15922 *	NASA-CASE-XGS-07514	c 23	N71-16099 *
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NASA-CASE-XAC-11225	c 14	N69-27486 * #	NASA-CASE-XGS-02011	c 15	N71-20739 *	NASA-CASE-XGS-07801	c 09	N71-12513 *
NASA-CASE-XAR-01547	c 05	N69-21473 * #	NASA-CASE-XGS-02171	c 09	N69-24324 * #	NASA-CASE-XGS-07805	c 15	N72-33476 *
NASA-CASE-XAR-03786	c 09	N69-21313 * #	NASA-CASE-XGS-02290	c 07	N71-28809 *	NASA-CASE-XGS-08259	c 14	N71-23698 *
			NASA-CASE-XGS-02317	c 09	N71-23525 *	NASA-CASE-XGS-08266	c 14	N69-27432 * #
			NASA-CASE-XGS-02319	c 14	N71-22965 *	NASA-CASE-XGS-08269	c 23	N71-26206 *
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NASA-CASE-XER-09213	c 07	N71-12390 *	NASA-CASE-XGS-02439	c 14	N71-19431 *	NASA-CASE-XGS-09190	c 31	N71-16102 *
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NASA-CASE-XER-11019	c 09	N71-23598 *	NASA-CASE-XGS-02554	c 31	N71-21064 *	NASA-CASE-XGS-11177	c 09	N71-27001 *
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NASA-CASE-XFR-00181	c 21	N70-33279 *	NASA-CASE-XGS-02629	c 14	N71-21082 *	NASA-CASE-XHQ-03673	c 33	N71-29046 *
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NASA-CASE-XFR-03802	c 33	N71-23085 *	NASA-CASE-XGS-02816	c 07	N69-24323 * #	NASA-CASE-XKS-02582	c 15	N71-21234 *
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NASA-CASE-XFR-04147	c 11	N71-10748 *	NASA-CASE-XGS-02889	c 07	N71-11282 *	NASA-CASE-XKS-03381	c 09	N71-22796 *
NASA-CASE-XFR-05302	c 15	N71-23254 *	NASA-CASE-XGS-03058	c 10	N71-19547 *	NASA-CASE-XKS-03495	c 14	N69-39785 * #
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NASA-CASE-XGS-00359	c 14	N70-34158 *	NASA-CASE-XGS-03502	c 10	N71-20852 *	NASA-CASE-XKS-09348	c 09	N71-13521 *
NASA-CASE-XGS-00373	c 23	N71-15978 *	NASA-CASE-XGS-03505	c 03	N71-10608 *	NASA-CASE-XKS-10543	c 07	N71-26292 *
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NASA-CASE-XGS-00587	c 15	N70-35087 *	NASA-CASE-XGS-03736	c 14	N72-22443 *	NASA-CASE-XLA-00087	c 02	N70-33332 *
NASA-CASE-XGS-00619	c 30	N70-40016 *	NASA-CASE-XGS-03864	c 15	N69-24320 * #	NASA-CASE-XLA-00100	c 14	N70-36807 *
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NASA-CASE-XGS-00783	c 30	N71-17788 *	NASA-CASE-XGS-04173	c 19	N71-26674 *	NASA-CASE-XLA-00115	c 03	N70-33343 *
NASA-CASE-XGS-00809	c 21	N70-35427 *	NASA-CASE-XGS-04175	c 15	N71-18579 *	NASA-CASE-XLA-00117	c 31	N71-17680 *

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NASA-CASE-XLA-00221	c 02	N70-33266 *	NASA-CASE-XLA-01967	c 31	N70-42015 *	NASA-CASE-XLA-07788	c 09	N71-29139 *
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NASA-CASE-XLA-01339	c 31	N71-15692 *	NASA-CASE-XLA-04980	c 09	N69-27422 *	NASA-CASE-XLE-00208	c 28	N70-34294 *
NASA-CASE-XLA-01349	c 20	N71-17143 *	NASA-CASE-XLA-05056	c 15	N72-11389 *	NASA-CASE-XLE-00209	c 22	N73-32528 *
NASA-CASE-XLA-01353	c 14	N70-41366 *	NASA-CASE-XLA-05087	c 14	N73-30391 *	NASA-CASE-XLE-00212	c 03	N70-34134 *
NASA-CASE-XLA-01354	c 25	N70-36946 *	NASA-CASE-XLA-05099	c 09	N73-13209 *	NASA-CASE-XLE-00222	c 02	N70-37939 *
NASA-CASE-XLA-01396	c 03	N71-12259 *	NASA-CASE-XLA-05100	c 15	N71-17696 *	NASA-CASE-XLE-00228	c 17	N70-38490 *
NASA-CASE-XLA-01400	c 07	N70-41331 *	NASA-CASE-XLA-05332	c 05	N71-11194 *	NASA-CASE-XLE-00231	c 17	N70-38198 *
NASA-CASE-XLA-01401	c 15	N71-21179 *	NASA-CASE-XLA-05369	c 31	N71-15687 *	NASA-CASE-XLE-00243	c 14	N70-38602 *
NASA-CASE-XLA-01441	c 15	N70-41679 *	NASA-CASE-XLA-05378	c 11	N71-21475 *	NASA-CASE-XLE-00252	c 11	N70-34844 *

NASA-CASE-XLE-00266	c 14	N70-34156 *	NASA-CASE-XLE-03804	c 10	N71-19471 *	NASA-CASE-XMF-01083	c 15	N71-22723 *
NASA-CASE-XLE-00267	c 28	N70-33356 *	NASA-CASE-XLE-03925	c 18	N71-22894 *	NASA-CASE-XMF-01096	c 10	N71-16030 *
NASA-CASE-XLE-00283	c 17	N70-36616 *	NASA-CASE-XLE-03940-2	c 17	N72-28536 *	NASA-CASE-XMF-01097	c 10	N71-16058 *
NASA-CASE-XLE-00288	c 15	N70-34247 *	NASA-CASE-XLE-03940	c 18	N71-26153 *	NASA-CASE-XMF-01099	c 14	N71-15969 *
NASA-CASE-XLE-00303	c 15	N70-36535 *	NASA-CASE-XLE-04026	c 14	N71-23267 *	NASA-CASE-XMF-01129	c 09	N70-38712 *
NASA-CASE-XLE-00323	c 28	N70-38505 *	NASA-CASE-XLE-04222	c 23	N71-22881 *	NASA-CASE-XMF-01160	c 07	N71-11298 *
NASA-CASE-XLE-00335	c 14	N70-35368 *	NASA-CASE-XLE-04250	c 09	N71-20446 *	NASA-CASE-XMF-01174	c 02	N70-41589 *
NASA-CASE-XLE-00342	c 28	N70-37980 *	NASA-CASE-XLE-04501	c 09	N71-23190 *	NASA-CASE-XMF-01371	c 15	N70-41829 *
NASA-CASE-XLE-00345	c 15	N70-38020 *	NASA-CASE-XLE-04503	c 14	N71-24864 *	NASA-CASE-XMF-01402	c 18	N71-21651 *
NASA-CASE-XLE-00353	c 18	N70-39897 *	NASA-CASE-XLE-04526	c 03	N71-11052 *	NASA-CASE-XMF-01452	c 15	N70-41371 *
NASA-CASE-XLE-00376	c 28	N70-37245 *	NASA-CASE-XLE-04535	c 03	N71-23354 *	NASA-CASE-XMF-01483	c 14	N69-21731 *
NASA-CASE-XLE-00387	c 33	N70-34812 *	NASA-CASE-XLE-04599	c 22	N72-20597 *	NASA-CASE-XMF-01543	c 31	N71-17730 *
NASA-CASE-XLE-00388	c 28	N70-34788 *	NASA-CASE-XLE-04603	c 33	N71-21507 *	NASA-CASE-XMF-01544	c 28	N70-34162 *
NASA-CASE-XLE-00397	c 15	N70-36492 *	NASA-CASE-XLE-04677	c 15	N71-10577 *	NASA-CASE-XMF-01598	c 21	N71-15583 *
NASA-CASE-XLE-00409	c 28	N71-15658 *	NASA-CASE-XLE-04787	c 03	N71-20492 *	NASA-CASE-XMF-01599	c 09	N71-20705 *
NASA-CASE-XLE-00454	c 23	N71-17802 *	NASA-CASE-XLE-04788	c 09	N71-22987 *	NASA-CASE-XMF-01667	c 15	N71-17647 *
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NASA-CASE-XLE-00490	c 33	N70-34545 *	NASA-CASE-XLE-04857	c 28	N71-23968 *	NASA-CASE-XMF-01730	c 15	N71-23050 *
NASA-CASE-XLE-00503	c 14	N70-34818 *	NASA-CASE-XLE-04946	c 17	N71-24911 *	NASA-CASE-XMF-01772	c 11	N70-41677 *
NASA-CASE-XLE-00519	c 28	N70-41576 *	NASA-CASE-XLE-05033	c 15	N71-23810 *	NASA-CASE-XMF-01779	c 12	N71-20815 *
NASA-CASE-XLE-00586	c 15	N71-15968 *	NASA-CASE-XLE-05079	c 15	N71-17652 *	NASA-CASE-XMF-01813	c 28	N70-41582 *
NASA-CASE-XLE-00620	c 32	N70-41579 *	NASA-CASE-XLE-05130-2	c 15	N71-19570 *	NASA-CASE-XMF-01887	c 15	N71-10617 *
NASA-CASE-XLE-00660	c 28	N70-39925 *	NASA-CASE-XLE-05130	c 15	N69-21362 *	NASA-CASE-XMF-01892	c 10	N71-22986 *
NASA-CASE-XLE-00685	c 28	N70-41992 *	NASA-CASE-XLE-05230-2	c 14	N73-13417 *	NASA-CASE-XMF-01899	c 31	N70-41948 *
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NASA-CASE-XLE-00702	c 14	N70-40993 *	NASA-CASE-XLE-05261	c 15	N71-26346 *	NASA-CASE-XMF-02033	c 15	N71-15561 *
NASA-CASE-XLE-00703	c 15	N71-15967 *	NASA-CASE-XLE-05689	c 28	N71-15659 *	NASA-CASE-XMF-02107	c 15	N71-10809 *
NASA-CASE-XLE-00715	c 15	N70-34859 *	NASA-CASE-XLE-05913	c 33	N71-14032 *	NASA-CASE-XMF-02108	c 31	N70-36845 *
NASA-CASE-XLE-00720	c 14	N70-40201 *	NASA-CASE-XLE-06094	c 33	N78-17293 *	NASA-CASE-XMF-02221	c 18	N71-27170 *
NASA-CASE-XLE-00726	c 17	N71-15644 *	NASA-CASE-XLE-06461-2	c 17	N72-28535 *	NASA-CASE-XMF-02263	c 05	N74-10907 *
NASA-CASE-XLE-00785	c 33	N71-16104 *	NASA-CASE-XLE-06461	c 17	N72-22530 *	NASA-CASE-XMF-02303	c 17	N71-23828 *
NASA-CASE-XLE-00787	c 14	N71-21090 *	NASA-CASE-XLE-06773	c 15	N71-23817 *	NASA-CASE-XMF-02307	c 14	N71-10779 *
NASA-CASE-XLE-00808	c 24	N71-10560 *	NASA-CASE-XLE-06774-2	c 06	N72-25150 *	NASA-CASE-XMF-02330	c 15	N71-23798 *
NASA-CASE-XLE-00810	c 15	N70-34861 *	NASA-CASE-XLE-06969	c 17	N71-24142 *	NASA-CASE-XMF-02392	c 32	N71-24285 *
NASA-CASE-XLE-00815	c 15	N70-35407 *	NASA-CASE-XLE-07087	c 06	N69-39889 *	NASA-CASE-XMF-02433	c 14	N71-10616 *
NASA-CASE-XLE-00817	c 28	N70-33265 *	NASA-CASE-XLE-08511-2	c 18	N71-16105 *	NASA-CASE-XMF-02526-1	c 27	N79-21190 *
NASA-CASE-XLE-00820	c 14	N71-16014 *	NASA-CASE-XLE-08511	c 18	N71-23710 *	NASA-CASE-XMF-02527-1	c 27	N79-21190 *
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NASA-CASE-XLE-01015	c 03	N69-39898 *	NASA-CASE-XLE-08569	c 03	N71-23449 *	NASA-CASE-XMF-02783-1	c 27	N79-21190 *
NASA-CASE-XLE-01092	c 15	N71-22797 *	NASA-CASE-XLE-08917-2	c 15	N71-24836 *	NASA-CASE-XMF-02786	c 17	N71-20743 *
NASA-CASE-XLE-01124	c 28	N71-14043 *	NASA-CASE-XLE-08917	c 15	N71-15597 *	NASA-CASE-XMF-02822	c 14	N70-41994 *
NASA-CASE-XLE-01182	c 27	N71-15635 *	NASA-CASE-XLE-09341	c 12	N71-28741 *	NASA-CASE-XMF-02853	c 31	N70-36654 *
NASA-CASE-XLE-01246	c 14	N71-10797 *	NASA-CASE-XLE-09475-1	c 33	N71-15568 *	NASA-CASE-XMF-02964	c 14	N71-17659 *
NASA-CASE-XLE-01300	c 15	N70-41993 *	NASA-CASE-XLE-09527-2	c 15	N71-26189 *	NASA-CASE-XMF-02966	c 10	N71-24863 *
NASA-CASE-XLE-01399	c 33	N71-15625 *	NASA-CASE-XLE-09527	c 15	N71-17688 *	NASA-CASE-XMF-03074	c 06	N71-24740 *
NASA-CASE-XLE-01449	c 15	N70-41646 *	NASA-CASE-XLE-10326-2	c 15	N72-29488 *	NASA-CASE-XMF-03169	c 31	N71-15675 *
NASA-CASE-XLE-01481	c 14	N71-10781 *	NASA-CASE-XLE-10326-4	c 37	N74-15125 *	NASA-CASE-XMF-03198	c 30	N70-40353 *
NASA-CASE-XLE-01512	c 12	N70-40124 *	NASA-CASE-XLE-10337	c 15	N71-24046 *	NASA-CASE-XMF-03212	c 15	N71-22721 *
NASA-CASE-XLE-01533	c 11	N71-10777 *	NASA-CASE-XLE-103477-1	c 28	N71-20330 *	NASA-CASE-XMF-03248	c 11	N71-10604 *
NASA-CASE-XLE-01604-2	c 15	N71-15610 *	NASA-CASE-XLE-10453-2	c 28	N73-27699 *	NASA-CASE-XMF-03287	c 15	N71-15607 *
NASA-CASE-XLE-01609	c 14	N71-10500 *	NASA-CASE-XLE-10466	c 17	N69-25147 *	NASA-CASE-XMF-03290	c 15	N71-23256 *
NASA-CASE-XLE-01640	c 31	N71-15637 *	NASA-CASE-XLE-10529	c 14	N69-23191 *	NASA-CASE-XMF-03498	c 15	N71-15986 *
NASA-CASE-XLE-01645	c 03	N71-20904 *	NASA-CASE-XLE-10715	c 26	N71-23292 *	NASA-CASE-XMF-03511	c 15	N71-22799 *
NASA-CASE-XLE-01716	c 09	N70-40234 *	NASA-CASE-XLE-10717	c 37	N75-29426 *	NASA-CASE-XMF-03793	c 15	N71-24833 *
NASA-CASE-XLE-01765	c 18	N71-10772 *	NASA-CASE-XLE-10910	c 18	N71-29040 *	NASA-CASE-XMF-03844-1	c 14	N71-26474 *
NASA-CASE-XLE-01783	c 28	N70-34175 *	NASA-CASE-XLE-2529-2	c 36	N75-27364 *	NASA-CASE-XMF-03856	c 31	N70-34159 *
NASA-CASE-XLE-01902	c 28	N71-10574 *	NASA-CASE-XLE-2529-3	c 33	N74-20859 *	NASA-CASE-XMF-03873	c 06	N69-39733 *
NASA-CASE-XLE-01903	c 22	N71-23599 *				NASA-CASE-XMF-03934	c 09	N71-22985 *
NASA-CASE-XLE-01988	c 27	N71-15634 *	NASA-CASE-XMF-00148	c 28	N70-38710 *	NASA-CASE-XMF-03968	c 14	N71-27186 *
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NASA-CASE-XLE-02024	c 14	N71-22964 *	NASA-CASE-XMF-00339	c 15	N70-39896 *	NASA-CASE-XMF-04132	c 15	N69-27502 *
NASA-CASE-XLE-02038	c 09	N71-16086 *	NASA-CASE-XMF-00341	c 15	N70-33323 *	NASA-CASE-XMF-04133	c 06	N71-20717 *
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NASA-CASE-XLE-02066	c 28	N71-15661 *	NASA-CASE-XMF-00375	c 15	N70-34249 *	NASA-CASE-XMF-04163	c 02	N71-23007 *
NASA-CASE-XLE-02082	c 17	N71-16026 *	NASA-CASE-XMF-00389	c 31	N70-34176 *	NASA-CASE-XMF-04208	c 33	N71-29051 *
NASA-CASE-XLE-02083	c 03	N69-39983 *	NASA-CASE-XMF-00392	c 15	N70-34814 *	NASA-CASE-XMF-04237	c 33	N71-16278 *
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NASA-CASE-XLE-02428	c 17	N70-33288 *	NASA-CASE-XMF-00421	c 09	N70-34502 *	NASA-CASE-XMF-04367	c 09	N71-23545 *
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NASA-CASE-XLE-02798	c 26	N71-23654 *	NASA-CASE-XMF-00479	c 14	N70-34794 *	NASA-CASE-XMF-04958-1	c 10	N71-26414 *
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NASA-CASE-XLE-02991	c 17	N71-16025 *	NASA-CASE-XMF-00580	c 11	N70-35383 *	NASA-CASE-XMF-05114-3	c 15	N71-24865 *
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NASA-CASE-XLE-03061-1	c 10	N71-24798 *	NASA-CASE-XMF-00641	c 31	N70-36410 *	NASA-CASE-XMF-05224	c 14	N71-24861 *
NASA-CASE-XLE-03157	c 28	N71-24736 *	NASA-CASE-XMF-00658	c 12	N70-38997 *	NASA-CASE-XMF-05279	c 18	N71-23726 *
NASA-CASE-XLE-03186-1	c 09	N79-21084 *	NASA-CASE-XMF-00663	c 08	N71-18752 *	NASA-CASE-XMF-05344	c 31	N71-16124 *
NASA-CASE-XLE-03280	c 14	N71-23093 *	NASA-CASE-XMF-00684	c 21	N71-21688 *	NASA-CASE-XMF-05373-1	c 33	N79-21264 *
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NASA-CASE-XLE-03432	c 33	N71-24145 *	NASA-CASE-XMF-00722	c 15	N70-40204 *	NASA-CASE-XMF-05835	c 08	N71-12504 *
NASA-CASE-XLE-03494	c 27	N71-21819 *	NASA-CASE-XMF-00906	c 09	N70-41655 *	NASA-CASE-XMF-05843	c 03	N71-11555 *
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NASA-CASE-XLE-03778	c 09	N69-21542 *	NASA-CASE-XMF-01016	c 26	N71-17818 *	NASA-CASE-XMF-05941	c 31	N71-23912 *
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NASA-CASE-XMF-08523	c 31	N71-20396 *	NASA-CASE-XMS-04798	c 11	N71-21474 *	NASA-CASE-XNP-00748	c 07	N70-36911 *
NASA-CASE-XMF-08651	c 06	N71-11236 *	NASA-CASE-XMS-04826	c 28	N71-28849 *	NASA-CASE-XNP-00777	c 10	N71-19469 *
NASA-CASE-XMF-08652	c 06	N71-11243 *	NASA-CASE-XMS-04843	c 03	N69-21469 *	NASA-CASE-XNP-00816	c 28	N71-28928 *
NASA-CASE-XMF-08655	c 06	N71-11239 *	NASA-CASE-XMS-04890-1	c 15	N70-22192 *	NASA-CASE-XNP-00826	c 03	N71-20895 *
NASA-CASE-XMF-08656	c 06	N71-11242 *	NASA-CASE-XMS-04917	c 14	N69-24257 *	NASA-CASE-XNP-00840	c 15	N70-38225 *
NASA-CASE-XMF-08665	c 10	N71-19467 *	NASA-CASE-XMS-04919	c 09	N71-23270 *	NASA-CASE-XNP-00876	c 28	N70-41311 *
NASA-CASE-XMF-08674	c 06	N71-28807 *	NASA-CASE-XMS-04928	c 54	N78-17679 *	NASA-CASE-XNP-00911	c 08	N70-41961 *
NASA-CASE-XMF-08804	c 09	N71-24717 *	NASA-CASE-XMS-04935	c 05	N71-11190 *	NASA-CASE-XNP-00920	c 15	N71-15906 *
NASA-CASE-XMF-09422	c 07	N71-19436 *	NASA-CASE-XMS-05303	c 07	N69-27462 *	NASA-CASE-XNP-00952	c 10	N71-23271 *
NASA-CASE-XMF-09902	c 15	N72-11387 *	NASA-CASE-XMS-05304	c 05	N71-12336 *	NASA-CASE-XNP-01012	c 08	N71-28925 *
NASA-CASE-XMF-10040	c 15	N71-22877 *	NASA-CASE-XMS-05307	c 09	N69-24330 *	NASA-CASE-XNP-01020	c 03	N71-12260 *
NASA-CASE-XMF-10289	c 14	N71-23699 *	NASA-CASE-XMS-05365	c 14	N71-22993 *	NASA-CASE-XNP-01056	c 14	N71-23041 *
NASA-CASE-XMF-10753	c 06	N71-11237 *	NASA-CASE-XMS-05454-1	c 07	N71-12391 *	NASA-CASE-XNP-01057	c 07	N71-15907 *
NASA-CASE-XMF-10968	c 14	N71-24234 *	NASA-CASE-XMS-05516	c 15	N71-17803 *	NASA-CASE-XNP-01058	c 09	N71-12540 *
NASA-CASE-XMF-14032	c 20	N71-16340 *	NASA-CASE-XMS-05562-1	c 09	N69-39986 *	NASA-CASE-XNP-01059	c 23	N71-21821 *
NASA-CASE-XMF-14301	c 09	N71-23188 *	NASA-CASE-XMS-05605-1	c 10	N71-19468 *	NASA-CASE-XNP-01068	c 10	N71-28739 *
NASA-CASE-XMS-00259	c 18	N70-36400 *	NASA-CASE-XMS-05731	c 35	N75-29382 *	NASA-CASE-XNP-01104	c 28	N70-39931 *
NASA-CASE-XMS-00486	c 33	N70-33344 *	NASA-CASE-XMS-05890	c 09	N71-23191 *	NASA-CASE-XNP-01107	c 10	N71-28859 *
NASA-CASE-XMS-00583	c 28	N70-38504 *	NASA-CASE-XMS-05894-1	c 15	N69-21924 *	NASA-CASE-XNP-01152	c 15	N70-41811 *
NASA-CASE-XMS-00784	c 05	N71-12335 *	NASA-CASE-XMS-05909-1	c 14	N69-27459 *	NASA-CASE-XNP-01153	c 32	N71-17645 *
NASA-CASE-XMS-00863	c 05	N70-34857 *	NASA-CASE-XMS-05936	c 14	N70-41682 *	NASA-CASE-XNP-01185	c 26	N73-28710 *
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NASA-CASE-XMS-00893	c 07	N70-40063 *	NASA-CASE-XMS-06061	c 05	N71-23317 *	NASA-CASE-XNP-01188	c 15	N73-32361 *
NASA-CASE-XMS-00907	c 02	N70-41630 *	NASA-CASE-XMS-06064	c 05	N71-23096 *	NASA-CASE-XNP-01193	c 10	N71-16057 *
NASA-CASE-XMS-00913	c 10	N71-23543 *	NASA-CASE-XMS-06162	c 31	N71-28851 *	NASA-CASE-XNP-01263-2	c 15	N71-26312 *
NASA-CASE-XMS-00945	c 09	N71-10798 *	NASA-CASE-XMS-06236	c 14	N71-21007 *	NASA-CASE-XNP-01296	c 33	N75-27250 *
NASA-CASE-XMS-01077-1	c 37	N79-33467 *	NASA-CASE-XMS-06329-1	c 15	N71-20441 *	NASA-CASE-XNP-01306	c 09	N71-24596 *
NASA-CASE-XMS-01108	c 15	N69-24322 *	NASA-CASE-XMS-06497	c 14	N71-26244 *	NASA-CASE-XNP-01306	c 07	N71-20814 *
NASA-CASE-XMS-01115	c 05	N70-39922 *	NASA-CASE-XMS-06740-1	c 07	N71-26579 *	NASA-CASE-XNP-01307	c 21	N70-41856 *
NASA-CASE-XMS-01177	c 05	N71-19440 *	NASA-CASE-XMS-06761	c 05	N69-23192 *	NASA-CASE-XNP-01310	c 33	N71-28852 *
NASA-CASE-XMS-01240	c 05	N70-35152 *	NASA-CASE-XMS-06767-1	c 14	N71-20435 *	NASA-CASE-XNP-01311	c 26	N75-29236 *
NASA-CASE-XMS-01244-1	c 33	N79-33393 *	NASA-CASE-XMS-06782	c 32	N71-15974 *	NASA-CASE-XNP-01318	c 10	N71-23033 *
NASA-CASE-XMS-01295-1	c 37	N79-21345 *	NASA-CASE-XMS-06876	c 15	N71-21536 *	NASA-CASE-XNP-01328	c 26	N71-18064 *
NASA-CASE-XMS-01315	c 09	N70-41675 *	NASA-CASE-XMS-06894	c 09	N69-21467 *	NASA-CASE-XNP-01383	c 09	N71-10659 *
NASA-CASE-XMS-01330	c 37	N75-27376 *	NASA-CASE-XMS-07168	c 07	N71-11300 *	NASA-CASE-XNP-01390	c 28	N70-41275 *
NASA-CASE-XMS-01445	c 12	N71-16031 *	NASA-CASE-XMS-07487	c 15	N71-23255 *	NASA-CASE-XNP-01412	c 15	N70-42034 *
NASA-CASE-XMS-01492	c 05	N70-41297 *	NASA-CASE-XMS-07846-1	c 09	N69-21927 *	NASA-CASE-XNP-01458	c 04	N78-17031 *
NASA-CASE-XMS-01546	c 14	N70-40233 *	NASA-CASE-XMS-08589-1	c 09	N71-20569 *	NASA-CASE-XNP-01464	c 03	N71-10726 *
NASA-CASE-XMS-01554	c 10	N71-10578 *	NASA-CASE-XMS-09310	c 15	N71-22706 *	NASA-CASE-XNP-01466	c 10	N71-26434 *
NASA-CASE-XMS-01615	c 05	N70-41329 *	NASA-CASE-XMS-09352	c 09	N71-23316 *	NASA-CASE-XNP-01472	c 14	N70-41807 *
NASA-CASE-XMS-01618	c 14	N71-20741 *	NASA-CASE-XMS-09571	c 05	N71-19439 *	NASA-CASE-XNP-01501	c 21	N70-41930 *
NASA-CASE-XMS-01620	c 23	N71-15673 *	NASA-CASE-XMS-09610	c 07	N71-24625 *	NASA-CASE-XNP-01567	c 15	N70-41310 *
NASA-CASE-XMS-01624	c 15	N70-40062 *	NASA-CASE-XMS-09632-1	c 05	N71-11203 *	NASA-CASE-XNP-01641	c 15	N71-22997 *
NASA-CASE-XMS-01625	c 15	N71-23022 *	NASA-CASE-XMS-09635	c 05	N71-24623 *	NASA-CASE-XNP-01659	c 14	N71-23039 *
NASA-CASE-XMS-01816	c 33	N71-15623 *	NASA-CASE-XMS-09636	c 05	N71-12344 *	NASA-CASE-XNP-01660	c 14	N71-23036 *
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NASA-CASE-XMS-01906	c 31	N70-41373 *	NASA-CASE-XMS-09652-1	c 05	N71-26333 *	NASA-CASE-XNP-01747	c 15	N71-23024 *
NASA-CASE-XMS-01991	c 09	N71-21449 *	NASA-CASE-XMS-09653	c 54	N78-17680 *	NASA-CASE-XNP-01749	c 27	N70-41897 *
NASA-CASE-XMS-01994-1	c 14	N72-17326 *	NASA-CASE-XMS-09690	c 33	N72-25913 *	NASA-CASE-XNP-01753	c 08	N71-22897 *
NASA-CASE-XMS-02009	c 33	N71-20834 *	NASA-CASE-XMS-09691-1	c 18	N71-15545 *	NASA-CASE-XNP-01848	c 15	N71-28959 *
NASA-CASE-XMS-02063	c 03	N71-29044 *	NASA-CASE-XMS-10269	c 05	N71-24147 *	NASA-CASE-XNP-01855	c 15	N71-28937 *
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NASA-CASE-XMS-02159	c 10	N71-22961 *	NASA-CASE-XMS-10984-1	c 10	N71-19417 *	NASA-CASE-XNP-01954	c 28	N71-28850 *
NASA-CASE-XMS-02182	c 10	N71-28783 *	NASA-CASE-XMS-10993	c 15	N71-28936 *	NASA-CASE-XNP-01959	c 26	N71-23043 *
NASA-CASE-XMS-02184	c 15	N71-20813 *	NASA-CASE-XMS-12158-1	c 31	N69-27499 *	NASA-CASE-XNP-01960	c 09	N71-23027 *
NASA-CASE-XMS-02383	c 15	N71-15918 *	NASA-CASE-XMS-13052	c 14	N71-20427 *	NASA-CASE-XNP-01961	c 26	N71-29156 *
NASA-CASE-XMS-02399	c 05	N71-22896 *	NASA-CASE-XNP-00214	c 15	N70-36908 *	NASA-CASE-XNP-01962	c 32	N70-41370 *
NASA-CASE-XMS-02532	c 15	N70-41808 *	NASA-CASE-XNP-00217	c 28	N70-38181 *	NASA-CASE-XNP-02029	c 15	N70-41955 *
NASA-CASE-XMS-02677	c 31	N70-42075 *	NASA-CASE-XNP-00234	c 28	N70-38645 *	NASA-CASE-XNP-02092	c 18	N70-42033 *
NASA-CASE-XMS-02744	c 33	N75-27249 *	NASA-CASE-XNP-00249	c 28	N70-38249 *	NASA-CASE-XNP-02139	c 18	N71-24184 *
NASA-CASE-XMS-02872	c 05	N69-21925 *	NASA-CASE-XNP-00250	c 11	N71-28779 *	NASA-CASE-XNP-02140	c 09	N71-23097 *
NASA-CASE-XMS-02930	c 11	N71-23042 *	NASA-CASE-XNP-00294	c 21	N70-36938 *	NASA-CASE-XNP-02251	c 12	N71-20896 *
NASA-CASE-XMS-02952	c 18	N71-20742 *	NASA-CASE-XNP-00384	c 09	N71-13530 *	NASA-CASE-XNP-02278	c 15	N71-28951 *
NASA-CASE-XMS-02977	c 11	N71-10746 *	NASA-CASE-XNP-00416	c 15	N70-36947 *	NASA-CASE-XNP-02340	c 23	N69-24332 *
NASA-CASE-XMS-03252	c 15	N71-10658 *	NASA-CASE-XNP-00425	c 11	N70-38202 *	NASA-CASE-XNP-02341	c 15	N71-21531 *
NASA-CASE-XMS-03371	c 05	N70-42000 *	NASA-CASE-XNP-00431	c 09	N70-38998 *	NASA-CASE-XNP-02389	c 07	N71-28900 *
NASA-CASE-XMS-03454	c 09	N71-20658 *	NASA-CASE-XNP-00432	c 06	N70-35423 *	NASA-CASE-XNP-02500	c 18	N71-27397 *
NASA-CASE-XMS-03537	c 15	N69-21471 *	NASA-CASE-XNP-00438	c 21	N70-35089 *	NASA-CASE-XNP-02507	c 31	N71-17675 *
NASA-CASE-XMS-03542	c 09	N71-28926 *	NASA-CASE-XNP-00449	c 14	N70-35220 *	NASA-CASE-XNP-02588	c 15	N71-18613 *
NASA-CASE-XMS-03613	c 31	N71-16346 *	NASA-CASE-XNP-00450	c 15	N70-38603 *	NASA-CASE-XNP-02592	c 24	N71-20518 *
NASA-CASE-XMS-03694-1	c 54	N82-29002 *	NASA-CASE-XNP-00459	c 11	N70-38675 *	NASA-CASE-XNP-02595	c 31	N71-21881 *
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NASA-CASE-XMS-03722	c 15	N71-21530 *	NASA-CASE-XNP-00465	c 21	N70-35395 *	NASA-CASE-XNP-02713	c 10	N69-39888 *
NASA-CASE-XMS-03745	c 15	N71-21076 *	NASA-CASE-XNP-00476	c 15	N70-38620 *	NASA-CASE-XNP-02723	c 07	N70-41680 *
						NASA-CASE-XNP-02748	c 08	N71-22749 *

NASA-CASE-XNP-02778	c 08	N71-22710 *	NASA-CASE-XNP-07169	c 15	N73-32362 *	US-PATENT-APPL-SN-014664	c 44	N81-14389 *
NASA-CASE-XNP-02791	c 07	N71-23026 *	NASA-CASE-XNP-07477	c 09	N71-26092 *	US-PATENT-APPL-SN-015983	c 02	N80-28300 *
NASA-CASE-XNP-02792	c 14	N71-28958 *	NASA-CASE-XNP-07478	c 14	N69-21923 * #	US-PATENT-APPL-SN-015995	c 08	N81-26152 *
NASA-CASE-XNP-02839	c 28	N70-41922 *	NASA-CASE-XNP-07481	c 25	N69-21929 * #	US-PATENT-APPL-SN-015996	c 08	N81-24106 *
NASA-CASE-XNP-02862-1	c 15	N71-26294 *	NASA-CASE-XNP-07659	c 06	N71-22975 *	US-PATENT-APPL-SN-017885	c 32	N79-19195 * #
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NASA-CASE-XNP-02899-1	c 33	N79-21265 *	NASA-CASE-XNP-08124	c 15	N71-27184 *	US-PATENT-APPL-SN-017887	c 33	N81-26358 *
NASA-CASE-XNP-02923	c 28	N71-23081 *	NASA-CASE-XNP-08274	c 10	N71-13537 *	US-PATENT-APPL-SN-017888	c 51	N80-16715 *
NASA-CASE-XNP-02982	c 31	N70-41855 *	NASA-CASE-XNP-08567	c 09	N71-26000 *	US-PATENT-APPL-SN-017889	c 02	N84-28732 *
NASA-CASE-XNP-02983	c 14	N71-21091 *	NASA-CASE-XNP-08680	c 14	N71-22995 *	US-PATENT-APPL-SN-017890	c 33	N81-15192 *
NASA-CASE-XNP-03063	c 17	N71-23365 *	NASA-CASE-XNP-08832	c 08	N71-12506 *	US-PATENT-APPL-SN-019541	c 02	N81-14968 *
NASA-CASE-XNP-03128	c 10	N70-41991 *	NASA-CASE-XNP-08835-1	c 37	N80-14395 *	US-PATENT-APPL-SN-021100	c 72	N88-24253 *
NASA-CASE-XNP-03134	c 07	N71-10676 *	NASA-CASE-XNP-08836	c 09	N71-12515 *	US-PATENT-APPL-SN-021569	c 35	N89-15379 *
NASA-CASE-XNP-03250	c 06	N71-23500 *	NASA-CASE-XNP-08837	c 18	N71-16210 *	US-PATENT-APPL-SN-022298	c 31	N89-12786 *
NASA-CASE-XNP-03263	c 09	N71-18843 *	NASA-CASE-XNP-08840	c 23	N71-16365 *	US-PATENT-APPL-SN-023436	c 07	N80-32392 *
NASA-CASE-XNP-03282	c 28	N72-20758 *	NASA-CASE-XNP-08875	c 10	N71-23099 *	US-PATENT-APPL-SN-023437	c 62	N81-24779 *
NASA-CASE-XNP-03332	c 09	N71-10618 *	NASA-CASE-XNP-08876	c 17	N73-28573 *	US-PATENT-APPL-SN-023439	c 37	N81-27519 *
NASA-CASE-XNP-03378	c 03	N71-11051 *	NASA-CASE-XNP-08877	c 15	N71-23025 *	US-PATENT-APPL-SN-023484	c 33	N81-20352 * #
NASA-CASE-XNP-03413	c 03	N71-26726 *	NASA-CASE-XNP-08880	c 09	N71-24808 *	US-PATENT-APPL-SN-023485	c 33	N82-24418 *
NASA-CASE-XNP-03459-2	c 18	N71-15688 *	NASA-CASE-XNP-08881	c 17	N71-28747 *	US-PATENT-APPL-SN-023501	c 26	N80-28492 *
NASA-CASE-XNP-03459	c 15	N71-21078 *	NASA-CASE-XNP-08882	c 15	N69-39935 * #	US-PATENT-APPL-SN-025039	c 37	N88-14360 *
NASA-CASE-XNP-03578	c 11	N71-23030 *	NASA-CASE-XNP-08883	c 23	N71-16101 *	US-PATENT-APPL-SN-025162	c 35	N81-14287 *
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NASA-CASE-XNP-03637	c 15	N71-21311 *	NASA-CASE-XNP-08907	c 23	N71-29123 *	US-PATENT-APPL-SN-025301	c 07	N82-26293 *
NASA-CASE-XNP-03692	c 28	N71-24321 *	NASA-CASE-XNP-08961	c 14	N71-24809 *	US-PATENT-APPL-SN-027557	c 27	N81-19296 *
NASA-CASE-XNP-03744	c 10	N71-20448 *	NASA-CASE-XNP-09205	c 14	N71-17657 *	US-PATENT-APPL-SN-027558	c 36	N81-24422 *
NASA-CASE-XNP-03795	c 23	N71-15467 *	NASA-CASE-XNP-09223	c 09	N69-24333 * #	US-PATENT-APPL-SN-027559	c 44	N81-17518 *
NASA-CASE-XNP-03835	c 06	N71-23499 *	NASA-CASE-XNP-09227	c 15	N69-24319 * #	US-PATENT-APPL-SN-027981	c 76	N87-25868 * #
NASA-CASE-XNP-03853	c 23	N71-21882 *	NASA-CASE-XNP-09228	c 09	N69-27500 * #	US-PATENT-APPL-SN-028300	c 27	N81-17259 *
NASA-CASE-XNP-03878	c 26	N75-27127 *	NASA-CASE-XNP-09450	c 10	N71-18723 *	US-PATENT-APPL-SN-028301	c 27	N81-17262 *
NASA-CASE-XNP-03914	c 21	N71-10771 *	NASA-CASE-XNP-09451	c 06	N71-26754 *	US-PATENT-APPL-SN-028301	c 27	N81-24256 *
NASA-CASE-XNP-03916	c 09	N71-28810 *	NASA-CASE-XNP-09452	c 15	N69-27504 * #	US-PATENT-APPL-SN-028301	c 27	N82-24338 *
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NASA-CASE-XNP-03930	c 14	N69-24331 * #	NASA-CASE-XNP-09461	c 28	N72-3809 *	US-PATENT-APPL-SN-028832	c 05	N89-11738 *
NASA-CASE-XNP-03972	c 15	N71-23048 *	NASA-CASE-XNP-09462	c 14	N71-17584 *	US-PATENT-APPL-SN-030831	c 25	N82-23282 *
NASA-CASE-XNP-04023	c 06	N71-28808 *	NASA-CASE-XNP-09469	c 24	N71-25555 *	US-PATENT-APPL-SN-032305	c 15	N82-24272 *
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NASA-CASE-XNP-04111	c 14	N71-15622 *	NASA-CASE-XNP-09698	c 15	N71-18580 *	US-PATENT-APPL-SN-032679	c 34	N88-23958 *
NASA-CASE-XNP-04124	c 28	N71-21822 *	NASA-CASE-XNP-09699	c 06	N71-24607 *	US-PATENT-APPL-SN-032685	c 35	N87-25555 * #
NASA-CASE-XNP-04148	c 17	N71-24830 *	NASA-CASE-XNP-09701	c 14	N71-26475 *	US-PATENT-APPL-SN-032818	c 37	N88-29180 *
NASA-CASE-XNP-04161	c 14	N71-15599 *	NASA-CASE-XNP-09702	c 15	N71-17654 *	US-PATENT-APPL-SN-032819	c 33	N87-27926 * #
NASA-CASE-XNP-04162-1	c 08	N70-34675 * #	NASA-CASE-XNP-09704	c 12	N71-18615 *	US-PATENT-APPL-SN-034104	c 08	N81-19130 *
NASA-CASE-XNP-04167-2	c 25	N72-24753 *	NASA-CASE-XNP-09744	c 27	N71-16392 *	US-PATENT-APPL-SN-034531	c 52	N81-28740 *
NASA-CASE-XNP-04167-3	c 36	N77-19416 *	NASA-CASE-XNP-09750	c 14	N69-39937 * #	US-PATENT-APPL-SN-035401	c 31	N87-25495 * #
NASA-CASE-XNP-04180	c 07	N69-39736 * #	NASA-CASE-XNP-09752	c 14	N69-21541 * #	US-PATENT-APPL-SN-035430	c 27	N87-25474 * #
NASA-CASE-XNP-04183	c 09	N69-24329 * #	NASA-CASE-XNP-09755	c 46	N74-23069 *	US-PATENT-APPL-SN-037066	c 25	N81-14016 *
NASA-CASE-XNP-04231	c 14	N73-32325 *	NASA-CASE-XNP-09759	c 08	N71-24891 *	US-PATENT-APPL-SN-037072	c 31	N81-33319 *
NASA-CASE-XNP-04262-2	c 17	N71-26773 *	NASA-CASE-XNP-09763	c 14	N71-20461 *	US-PATENT-APPL-SN-037194	c 37	N84-28081 *
NASA-CASE-XNP-04264	c 03	N69-21337 * #	NASA-CASE-XNP-09768	c 09	N71-12516 *	US-PATENT-APPL-SN-037560	c 74	N81-29963 *
NASA-CASE-XNP-04338	c 17	N71-23046 *	NASA-CASE-XNP-09770-2	c 15	N72-22483 *	US-PATENT-APPL-SN-038550	c 33	N83-18996 *
NASA-CASE-XNP-04339	c 17	N71-29137 *	NASA-CASE-XNP-09770-3	c 11	N71-27036 *	US-PATENT-APPL-SN-038560	c 27	N87-27810 * #
NASA-CASE-XNP-04389	c 28	N71-20942 *	NASA-CASE-XNP-09770	c 15	N71-20440 *	US-PATENT-APPL-SN-038980	c 07	N81-14999 *
NASA-CASE-XNP-04623	c 10	N71-26103 *	NASA-CASE-XNP-09771	c 09	N71-24841 *	US-PATENT-APPL-SN-039031	c 32	N80-28578 *
NASA-CASE-XNP-04731	c 15	N71-24042 *	NASA-CASE-XNP-09775	c 09	N71-20445 *	US-PATENT-APPL-SN-041141	c 36	N82-13415 *
NASA-CASE-XNP-04732	c 09	N71-20851 *	NASA-CASE-XNP-09776	c 09	N69-39929 * #	US-PATENT-APPL-SN-041142	c 32	N81-15179 *
NASA-CASE-XNP-04758	c 03	N71-24605 *	NASA-CASE-XNP-09785	c 08	N69-21928 * #	US-PATENT-APPL-SN-041143	c 60	N83-25378 *
NASA-CASE-XNP-04780	c 08	N71-19687 *	NASA-CASE-XNP-09802	c 33	N71-15641 *	US-PATENT-APPL-SN-041145	c 25	N82-12166 *
NASA-CASE-XNP-04816	c 06	N69-39936 * #	NASA-CASE-XNP-09808	c 09	N71-12518 *	US-PATENT-APPL-SN-041164	c 33	N81-19392 *
NASA-CASE-XNP-04817	c 14	N71-23225 *	NASA-CASE-XNP-09830	c 14	N71-26266 *	US-PATENT-APPL-SN-043911	c 05	N82-26277 *
NASA-CASE-XNP-04819	c 08	N71-23295 *	NASA-CASE-XNP-09832	c 30	N71-23723 *	US-PATENT-APPL-SN-043912	c 43	N81-17499 *
NASA-CASE-XNP-04969	c 11	N69-27466 * #	NASA-CASE-XNP-10007-1	c 46	N74-23068 *	US-PATENT-APPL-SN-043913	c 54	N81-27806 *
NASA-CASE-XNP-05082	c 15	N70-41960 *	NASA-CASE-XNP-10475	c 15	N71-24679 *	US-PATENT-APPL-SN-043941	c 44	N81-19558 *
NASA-CASE-XNP-05219	c 16	N71-15550 *	NASA-CASE-XNP-10830	c 07	N71-11281 *	US-PATENT-APPL-SN-043942	c 06	N82-16075 *
NASA-CASE-XNP-05231	c 14	N73-28491 *	NASA-CASE-XNP-10843	c 07	N71-11267 *	US-PATENT-APPL-SN-043943	c 33	N82-24419 *
NASA-CASE-XNP-05254	c 07	N71-20791 *	NASA-CASE-XNP-10854	c 10	N71-26331 *	US-PATENT-APPL-SN-043944	c 24	N82-24296 *
NASA-CASE-XNP-05297	c 15	N71-23811 *				US-PATENT-APPL-SN-043945	c 47	N82-24779 *
NASA-CASE-XNP-05381	c 09	N71-20842 *	NASA-TM-76884	c 24	N85-25436 * #	US-PATENT-APPL-SN-044180	c 35	N87-25558 * #
NASA-CASE-XNP-05382	c 10	N71-23544 *				US-PATENT-APPL-SN-044181	c 37	N88-23980 *
NASA-CASE-XNP-05415	c 08	N71-12505 *	US-PATENT-APPL-SN-000692	c 23	N89-12667 *	US-PATENT-APPL-SN-044183	c 27	N87-25473 * #
NASA-CASE-XNP-05429	c 26	N71-21824 *	US-PATENT-APPL-SN-003676	c 02	N88-23759 *	US-PATENT-APPL-SN-044431	c 33	N81-27395 *
NASA-CASE-XNP-05524	c 33	N71-24876 *	US-PATENT-APPL-SN-003693	c 52	N81-14612 *	US-PATENT-APPL-SN-044432	c 52	N81-20703 *
NASA-CASE-XNP-05530	c 14	N73-32321 *	US-PATENT-APPL-SN-004282	c 60	N88-29310 *	US-PATENT-APPL-SN-045743	c 35	N88-24927 *
NASA-CASE-XNP-05535	c 14	N71-23040 *	US-PATENT-APPL-SN-006952	c 27	N81-14077 *	US-PATENT-APPL-SN-045984	c 36	N88-24958 *
NASA-CASE-XNP-05612	c 09	N69-21468 * #	US-PATENT-APPL-SN-007083	c 26	N80-32484 *	US-PATENT-APPL-SN-046739	c 54	N81-24724 *
NASA-CASE-XNP-05634	c 15	N71-24834 *	US-PATENT-APPL-SN-008199	c 25	N87-23713 * #	US-PATENT-APPL-SN-051269	c 33	N81-24338 *
NASA-CASE-XNP-05821	c 03	N71-11056 *	US-PATENT-APPL-SN-008207	c 32	N80-23524 *	US-PATENT-APPL-SN-051270	c 32	N80-32604 *
NASA-CASE-XNP-05975	c 15	N69-23185 * #	US-PATENT-APPL-SN-008208	c 37	N81-17432 *	US-PATENT-APPL-SN-051271	c 33	N81-26359 *
NASA-CASE-XNP-06028	c 09	N71-23189 *	US-PATENT-APPL-SN-008209	c 32	N81-25278 *	US-PATENT-APPL-SN-051274	c 34	N81-26402 *
NASA-CASE-XNP-06031	c 15	N71-15606 *	US-PATENT-APPL-SN-008210	c 05	N81-26114 *	US-PATENT-APPL-SN-051275	c 44	N82-24640 *
NASA-CASE-XNP-06032	c 09	N69-21926 * #	US-PATENT-APPL-SN-008211	c 74	N81-17887 *	US-PATENT-APPL-SN-051276	c 33	N81-33404 *
NASA-CASE-XNP-06234	c 10	N71-27137 *	US-PATENT-APPL-SN-008212	c 44	N80-24741 *	US-PATENT-APPL-SN-052940	c 37	N89-13786 *
NASA-CASE-XNP-06503	c 23	N71-29049 *	US-PATENT-APPL-SN-008242	c 27	N87-23737 * #	US-PATENT-APPL-SN-052941	c 35	N87-25561 * #
NASA-CASE-XNP-06505	c 10	N71-24799 *	US-PATENT-APPL-SN-008895	c 08	N88-23809 *	US-PATENT-APPL-SN-053566	c 09	N82-24212 *
NASA-CASE-XNP-06506	c 03	N71-11050 *	US-PATENT-APPL-SN-009886	c 31	N80-32583 *	US-PATENT-APPL-SN-053569	c 35	N81-19426 *
NASA-CASE-XNP-06507	c 09	N71-23548 *	US-PATENT-APPL-SN-009887	c 28	N81-14103 *	US-PATENT-APPL-SN-053571	c 31	N81-19343 *
NASA-CASE-XNP-06508	c 18	N69-39895 * #	US-PATENT-APPL-SN-009888	c 37	N81-14320 *	US-PATENT-APPL-SN-053572	c 32	N82-23376 *
NASA-CASE-XNP-06509	c 14	N71-23226 *	US-PATENT-APPL-SN-009889	c 33	N81-27396 *	US-PATENT-APPL-SN-053652	c 33	N82-18494 *
NASA-CASE-XNP-06510	c 14	N71-23797 *	US-PATENT-APPL-SN-010942	c 37	N88-14362 *	US-PATENT-APPL-SN-054501	c 23	N82-16174 *
NASA-CASE-XNP-06611	c 07	N71-26102 *	US-PATENT-APPL-SN-010943	c 35	N89-12841 *	US-PATENT-APPL-SN-054980	c 35	N88-29149 *
NASA-CASE-XNP-06914	c 15	N71-21489 *	US-PATENT-APPL-SN-010950	c 37	N88-14361 *	US-PATENT-APPL-SN-054983	c 37	N87-25585 * #
NASA-CASE-XNP-06933	c 14	N73-32321 *	US-PATENT-APPL-SN-011693	c 27	N87-24575 * #	US-PATENT-APPL-SN-056930	c 37	N88-23979 *
NASA-CASE-XNP-06936	c 15	N71-24695 *	US-PATENT-APPL-SN-011737	c 27	N81-14078 *	US-PATENT-APPL-SN-057465	c 37	N81-17433 *
NASA-CASE-XNP-06937	c 09	N71-19516 *	US-PATENT-APPL-SN-013801	c 05	N88-23765 *	US-PATENT-APPL-SN-057466	c 71	N81-15767 *
NASA-CASE-XNP-06942	c 28	N71-23293 *	US-PATENT-APPL-SN-013802	c 35	N88-23967 *	US-PATENT-APPL-SN-057526	c 52	N81-25662 *
NASA-CASE-XNP-06957	c 14	N71-21088 *	US-PATENT-APPL-SN-013803	c 33	N88-24862 *	US-PATENT-APPL-SN-060182	c 27	N89-12741 *
NASA-CASE-XNP-07040	c 08	N71-12500 *	US-PATENT-APPL-SN-014663	c 31	N81-25259 *	US-PATENT-APPL-SN-060196	c 32	N89-11961 *



US-PATENT-APPL-SN-060200	c 09	N88-28939 *	US-PATENT-APPL-SN-106192	c 34	N83-28356 *	US-PATENT-APPL-SN-129071	c 09	N72-25254 *
US-PATENT-APPL-SN-060201	c 62	N87-25803 *	US-PATENT-APPL-SN-106424	c 17	N73-24569 *	US-PATENT-APPL-SN-129072	c 15	N73-13467 *
US-PATENT-APPL-SN-060435	c 44	N81-24520 *	US-PATENT-APPL-SN-106465	c 30	N73-12884 *	US-PATENT-APPL-SN-129073	c 15	N73-13464 *
US-PATENT-APPL-SN-060449	c 07	N82-32366 *	US-PATENT-APPL-SN-107298	c 32	N73-13921 *	US-PATENT-APPL-SN-129379	c 37	N79-33468 *
US-PATENT-APPL-SN-061327	c 32	N83-13323 *	US-PATENT-APPL-SN-107376	c 15	N73-25513 *	US-PATENT-APPL-SN-129579	c 28	N70-35381 *
US-PATENT-APPL-SN-061555	c 44	N81-29524 *	US-PATENT-APPL-SN-107379	c 10	N72-33230 *	US-PATENT-APPL-SN-129778	c 60	N82-24839 *
US-PATENT-APPL-SN-061556	c 35	N81-19427 *	US-PATENT-APPL-SN-107380	c 28	N73-13773 *	US-PATENT-APPL-SN-129779	c 60	N82-16747 *
US-PATENT-APPL-SN-061822	c 74	N83-19597 *	US-PATENT-APPL-SN-107659	c 23	N73-20741 *	US-PATENT-APPL-SN-129780	c 44	N82-24639 *
US-PATENT-APPL-SN-063557	c 37	N87-25584 *	US-PATENT-APPL-SN-107866	c 17	N70-36616 *	US-PATENT-APPL-SN-129783	c 04	N82-23231 *
US-PATENT-APPL-SN-065676	c 35	N80-18364 *	US-PATENT-APPL-SN-107870	c 15	N70-36411 *	US-PATENT-APPL-SN-129793	c 33	N82-16340 *
US-PATENT-APPL-SN-065676	c 44	N81-12542 *	US-PATENT-APPL-SN-108107	c 37	N82-18601 *	US-PATENT-APPL-SN-129798	c 27	N81-27271 *
US-PATENT-APPL-SN-066450	c 29	N87-25489 *	US-PATENT-APPL-SN-10812	c 28	N70-40367 *	US-PATENT-APPL-SN-129799	c 27	N82-18389 *
US-PATENT-APPL-SN-067595	c 08	N82-24205 *	US-PATENT-APPL-SN-10827	c 14	N72-28436 *	US-PATENT-APPL-SN-130058	c 33	N88-23936 *
US-PATENT-APPL-SN-067596	c 51	N81-28698 *	US-PATENT-APPL-SN-108331	c 26	N89-14303 *	US-PATENT-APPL-SN-130353	c 31	N73-14853 *
US-PATENT-APPL-SN-067844	c 34	N89-14392 *	US-PATENT-APPL-SN-108810	c 33	N77-22386 *	US-PATENT-APPL-SN-130496	c 36	N83-10417 *
US-PATENT-APPL-SN-069485	c 33	N82-24420 *	US-PATENT-APPL-SN-108824	c 31	N73-13898 *	US-PATENT-APPL-SN-132364	c 07	N83-36029 *
US-PATENT-APPL-SN-070366	c 35	N82-11431 *	US-PATENT-APPL-SN-109789	c 09	N70-34596 *	US-PATENT-APPL-SN-13266	c 05	N72-23085 *
US-PATENT-APPL-SN-070771	c 27	N81-17260 *	US-PATENT-APPL-SN-110402	c 09	N72-27226 *	US-PATENT-APPL-SN-133412	c 33	N88-23937 *
US-PATENT-APPL-SN-070774	c 33	N82-26571 *	US-PATENT-APPL-SN-110591	c 15	N70-39896 *	US-PATENT-APPL-SN-134479	c 14	N70-33179 *
US-PATENT-APPL-SN-072857	c 24	N82-32417 *	US-PATENT-APPL-SN-111436	c 33	N82-26569 *	US-PATENT-APPL-SN-134481	c 11	N70-34815 *
US-PATENT-APPL-SN-073477	c 36	N82-32712 *	US-PATENT-APPL-SN-111438	c 35	N81-29407 *	US-PATENT-APPL-SN-134567	c 14	N73-16484 *
US-PATENT-APPL-SN-073539	c 18	N87-29586 *	US-PATENT-APPL-SN-111439	c 74	N81-24900 *	US-PATENT-APPL-SN-134568	c 06	N72-31141 *
US-PATENT-APPL-SN-073541	c 33	N87-29737 *	US-PATENT-APPL-SN-111998	c 21	N73-30640 *	US-PATENT-APPL-SN-134571	c 21	N73-13644 *
US-PATENT-APPL-SN-073579	c 33	N82-24415 *	US-PATENT-APPL-SN-11220	c 14	N73-30389 *	US-PATENT-APPL-SN-134573	c 09	N72-25257 *
US-PATENT-APPL-SN-074792	c 35	N88-30108 *	US-PATENT-APPL-SN-112366	c 06	N72-10138 *	US-PATENT-APPL-SN-134619	c 35	N79-33449 *
US-PATENT-APPL-SN-076643	c 32	N81-29308 *	US-PATENT-APPL-SN-112988	c 07	N72-32169 *	US-PATENT-APPL-SN-134658	c 15	N73-28515 *
US-PATENT-APPL-SN-076955	c 16	N87-29582 *	US-PATENT-APPL-SN-112998	c 14	N73-12445 *	US-PATENT-APPL-SN-134782	c 09	N70-36494 *
US-PATENT-APPL-SN-076956	c 35	N88-29151 *	US-PATENT-APPL-SN-112999	c 23	N72-25619 *	US-PATENT-APPL-SN-134855	c 44	N81-24521 *
US-PATENT-APPL-SN-078521	c 32	N81-14186 *	US-PATENT-APPL-SN-112999	c 32	N79-19186 *	US-PATENT-APPL-SN-135038	c 33	N83-31954 *
US-PATENT-APPL-SN-078611	c 04	N81-21047 *	US-PATENT-APPL-SN-113014	c 27	N81-24257 *	US-PATENT-APPL-SN-135039	c 33	N82-24416 *
US-PATENT-APPL-SN-078612	c 46	N82-12685 *	US-PATENT-APPL-SN-113015	c 37	N82-24491 *	US-PATENT-APPL-SN-135040	c 09	N82-11088 *
US-PATENT-APPL-SN-079316	c 26	N87-29650 *	US-PATENT-APPL-SN-114772	c 04	N76-26175 *	US-PATENT-APPL-SN-135056	c 37	N81-33483 *
US-PATENT-APPL-SN-079317	c 37	N88-30131 *	US-PATENT-APPL-SN-114846	c 14	N73-12444 *	US-PATENT-APPL-SN-135057	c 08	N82-32373 *
US-PATENT-APPL-SN-079320	c 27	N87-29672 *	US-PATENT-APPL-SN-114847	c 15	N72-28496 *	US-PATENT-APPL-SN-135058	c 25	N82-26396 *
US-PATENT-APPL-SN-079913	c 05	N82-28279 *	US-PATENT-APPL-SN-114848	c 11	N72-23215 *	US-PATENT-APPL-SN-135120	c 37	N88-23973 *
US-PATENT-APPL-SN-084770	c 32	N88-29076 *	US-PATENT-APPL-SN-114849	c 09	N72-27227 *	US-PATENT-APPL-SN-136006	c 09	N72-28225 *
US-PATENT-APPL-SN-087282	c 31	N89-12785 *	US-PATENT-APPL-SN-114873	c 09	N73-28083 *	US-PATENT-APPL-SN-136007	c 09	N71-34212 *
US-PATENT-APPL-SN-087283	c 71	N89-13236 *	US-PATENT-APPL-SN-115082	c 18	N73-13562 *	US-PATENT-APPL-SN-136008	c 27	N74-13270 *
US-PATENT-APPL-SN-087359	c 35	N89-14422 *	US-PATENT-APPL-SN-115083	c 07	N73-25160 *	US-PATENT-APPL-SN-136085	c 17	N73-12547 *
US-PATENT-APPL-SN-088663	c 28	N82-18401 *	US-PATENT-APPL-SN-115134	c 06	N73-13128 *	US-PATENT-APPL-SN-136086	c 15	N73-19457 *
US-PATENT-APPL-SN-089779	c 26	N81-25188 *	US-PATENT-APPL-SN-115536	c 33	N82-24417 *	US-PATENT-APPL-SN-136253	c 27	N74-12814 *
US-PATENT-APPL-SN-090584	c 74	N81-19896 *	US-PATENT-APPL-SN-115944	c 03	N71-34044 *	US-PATENT-APPL-SN-136652	c 07	N84-24577 *
US-PATENT-APPL-SN-0914	c 28	N70-38711 *	US-PATENT-APPL-SN-116777	c 09	N73-19235 *	US-PATENT-APPL-SN-136660	c 31	N83-34073 *
US-PATENT-APPL-SN-092141	c 27	N81-29229 *	US-PATENT-APPL-SN-116778	c 09	N72-33205 *	US-PATENT-APPL-SN-137391	c 36	N75-31426 *
US-PATENT-APPL-SN-092142	c 27	N82-11206 *	US-PATENT-APPL-SN-116786	c 07	N72-25172 *	US-PATENT-APPL-SN-137912	c 06	N72-21105 *
US-PATENT-APPL-SN-092143	c 32	N82-18443 *	US-PATENT-APPL-SN-116790	c 14	N73-30388 *	US-PATENT-APPL-SN-138227	c 26	N72-27784 *
US-PATENT-APPL-SN-092145	c 37	N82-12442 *	US-PATENT-APPL-SN-116810	c 33	N88-26596 *	US-PATENT-APPL-SN-138229	c 15	N72-27847 *
US-PATENT-APPL-SN-093714	c 44	N81-29525 *	US-PATENT-APPL-SN-117575	c 08	N73-12177 *	US-PATENT-APPL-SN-138230	c 32	N73-20740 *
US-PATENT-APPL-SN-095217	c 74	N81-19898 *	US-PATENT-APPL-SN-118169	c 14	N70-35220 *	US-PATENT-APPL-SN-138944	c 37	N82-26672 *
US-PATENT-APPL-SN-096255	c 37	N80-18400 *	US-PATENT-APPL-SN-118200	c 15	N70-34247 *	US-PATENT-APPL-SN-139006	c 09	N70-38604 *
US-PATENT-APPL-SN-096255	c 37	N82-19540 *	US-PATENT-APPL-SN-118202	c 28	N70-38710 *	US-PATENT-APPL-SN-139007	c 28	N70-37245 *
US-PATENT-APPL-SN-096257	c 37	N82-24490 *	US-PATENT-APPL-SN-118203	c 14	N70-38602 *	US-PATENT-APPL-SN-139012	c 03	N70-38713 *
US-PATENT-APPL-SN-098568	c 33	N82-11357 *	US-PATENT-APPL-SN-118269	c 33	N73-26958 *	US-PATENT-APPL-SN-139094	c 05	N73-32011 *
US-PATENT-APPL-SN-098569	c 44	N82-16474 *	US-PATENT-APPL-SN-118270	c 09	N72-25260 *	US-PATENT-APPL-SN-139250	c 04	N73-27052 *
US-PATENT-APPL-SN-098570	c 44	N82-18686 *	US-PATENT-APPL-SN-11853	c 15	N71-28951 *	US-PATENT-APPL-SN-139528	c 03	N72-25020 *
US-PATENT-APPL-SN-100611	c 37	N82-32732 *	US-PATENT-APPL-SN-118992	c 37	N88-29181 *	US-PATENT-APPL-SN-139596	c 33	N77-13315 *
US-PATENT-APPL-SN-100637	c 37	N75-18574 *	US-PATENT-APPL-SN-119282	c 03	N72-23048 *	US-PATENT-APPL-SN-140439	c 33	N75-19518 *
US-PATENT-APPL-SN-100639	c 14	N72-32452 *	US-PATENT-APPL-SN-119334	c 31	N88-29052 *	US-PATENT-APPL-SN-140443	c 09	N70-35219 *
US-PATENT-APPL-SN-100774	c 06	N72-25151 *	US-PATENT-APPL-SN-119335	c 37	N82-24494 *	US-PATENT-APPL-SN-140509	c 09	N73-35382 *
US-PATENT-APPL-SN-100774	c 06	N73-32030 *	US-PATENT-APPL-SN-119336	c 33	N82-24421 *	US-PATENT-APPL-SN-140946	c 18	N73-26572 *
US-PATENT-APPL-SN-100996	c 08	N73-13187 *	US-PATENT-APPL-SN-119337	c 24	N81-33235 *	US-PATENT-APPL-SN-140946	c 27	N74-27037 *
US-PATENT-APPL-SN-101029	c 31	N70-38676 *	US-PATENT-APPL-SN-119339	c 36	N82-28616 *	US-PATENT-APPL-SN-141120	c 33	N70-37979 *
US-PATENT-APPL-SN-101214	c 14	N73-26430 *	US-PATENT-APPL-SN-119340	c 35	N82-11432 *	US-PATENT-APPL-SN-142583	c 37	N79-33469 *
US-PATENT-APPL-SN-101354	c 10	N73-16205 *	US-PATENT-APPL-SN-120241	c 15	N73-24513 *	US-PATENT-APPL-SN-142662	c 23	N73-13661 *
US-PATENT-APPL-SN-10161	c 33	N72-20915 *	US-PATENT-APPL-SN-120795	c 07	N70-40202 *	US-PATENT-APPL-SN-142719	c 14	N73-14429 *
US-PATENT-APPL-SN-102001	c 36	N82-16396 *	US-PATENT-APPL-SN-120797	c 14	N70-36824 *	US-PATENT-APPL-SN-143078	c 08	N72-33172 *
US-PATENT-APPL-SN-102002	c 18	N81-29152 *	US-PATENT-APPL-SN-120803	c 08	N70-34743 *	US-PATENT-APPL-SN-143436	c 35	N89-14423 *
US-PATENT-APPL-SN-102003	c 26	N82-29415 *	US-PATENT-APPL-SN-121328	c 23	N72-11568 *	US-PATENT-APPL-SN-143508	c 33	N74-12913 *
US-PATENT-APPL-SN-102003	c 26	N82-30371 *	US-PATENT-APPL-SN-122740	c 35	N88-23959 *	US-PATENT-APPL-SN-144139	c 11	N73-26238 *
US-PATENT-APPL-SN-102004	c 37	N81-26447 *	US-PATENT-APPL-SN-122965	c 35	N81-26431 *	US-PATENT-APPL-SN-144803	c 11	N70-34844 *
US-PATENT-APPL-SN-102412	c 25	N72-33696 *	US-PATENT-APPL-SN-122966	c 33	N82-26568 *	US-PATENT-APPL-SN-144804	c 14	N70-39898 *
US-PATENT-APPL-SN-102593	c 37	N82-16408 *	US-PATENT-APPL-SN-122967	c 24	N81-26179 *	US-PATENT-APPL-SN-14488	c 09	N70-38995 *
US-PATENT-APPL-SN-102705	c 35	N88-29150 *	US-PATENT-APPL-SN-123253	c 10	N73-12244 *	US-PATENT-APPL-SN-144958	c 09	N72-20206 *
US-PATENT-APPL-SN-103077	c 25	N72-32688 *	US-PATENT-APPL-SN-123597	c 21	N70-34297 *	US-PATENT-APPL-SN-145007	c 18	N70-36400 *
US-PATENT-APPL-SN-103078	c 15	N73-12486 *	US-PATENT-APPL-SN-124909	c 14	N73-16483 *	US-PATENT-APPL-SN-145026	c 06	N72-25152 *
US-PATENT-APPL-SN-103091	c 37	N74-23070 *	US-PATENT-APPL-SN-125021	c 74	N89-14077 *	US-PATENT-APPL-SN-145027	c 06	N72-32029 *
US-PATENT-APPL-SN-103229	c 14	N72-22439 *	US-PATENT-APPL-SN-125234	c 07	N73-16121 *	US-PATENT-APPL-SN-145107	c 27	N82-16238 *
US-PATENT-APPL-SN-103230	c 15	N73-14468 *	US-PATENT-APPL-SN-125235	c 51	N77-25769 *	US-PATENT-APPL-SN-145206	c 32	N82-11336 *
US-PATENT-APPL-SN-103239	c 09	N72-25251 *	US-PATENT-APPL-SN-125236	c 14	N73-26431 *	US-PATENT-APPL-SN-145207	c 25	N82-28368 *
US-PATENT-APPL-SN-103551	c 31	N73-14854 *	US-PATENT-APPL-SN-125666	c 32	N88-23924 *	US-PATENT-APPL-SN-145208	c 34	N83-34221 *
US-PATENT-APPL-SN-103836	c 37	N81-24443 *	US-PATENT-APPL-SN-125678	c 38	N88-23983 *	US-PATENT-APPL-SN-145209	c 27	N82-29453 *
US-PATENT-APPL-SN-104047	c 15	N72-31483 *	US-PATENT-APPL-SN-125979	c 09	N72-25255 *	US-PATENT-APPL-SN-145210	c 09	N82-23254 *
US-PATENT-APPL-SN-104048	c 31	N73-14855 *	US-PATENT-APPL-SN-126063	c 44	N83-10501 *	US-PATENT-APPL-SN-145271	c 23	N81-29160 *
US-PATENT-APPL-SN-104187	c 14	N70-36618 *	US-PATENT-APPL-SN-126064	c 33	N82-18493 *	US-PATENT-APPL-SN-145272	c 33	N82-28454 *
US-PATENT-APPL-SN-104188	c 09	N70-34819 *	US-PATENT-APPL-SN-126138	c 34	N82-13376 *	US-PATENT-APPL-SN-145273	c 51	N81-32829 *
US-PATENT-APPL-SN-104346	c 14	N73-28488 *	US-PATENT-APPL-SN-12661	c 14	N72-22437 *	US-PATENT-APPL-SN-145282	c 74	N82-24072 *
US-PATENT-APPL-SN-104884	c 15	N72-33476 *	US-PATENT-APPL-SN-127234	c 08	N70-35423 *	US-PATENT-APPL-SN-145283	c 27	N81-24256 *
US-PATENT-APPL-SN-104885	c 14	N73-24472 *	US-PATENT-APPL-SN-127480	c 37	N75-26371 *	US-PATENT-APPL-SN-145284	c 27	N82-24338 *
US-PATENT-APPL-SN-105518	c 23	N71-15978 *	US-PATENT-APPL-SN-127481	c 24	N75-28135 *	US-PATENT-APPL-SN-146217	c 14	N71-34389 *
US-PATENT-APPL-SN-105847	c 31	N89-14351 *	US-PATENT-APPL-SN-127618	c 02	N73-13008 *	US-PATENT-APPL-SN-146935	c 14	N73-20475 *
US-PATENT-APPL-SN-106106	c 91	N74-13130 *	US-PATENT-APPL-SN-127647	c 15	N73-27405 *	US-PATENT-APPL-SN-146938	c 35	N88-23963 *
US-PATENT-APPL-SN-106118	c 32	N80-16261 *	US-PATENT-APPL-SN-127915	c 02	N73-26004 *	US-PATENT-APPL-SN-146939	c 73	N75-30876 *
US-PATENT-APPL-SN-106119	c 35	N82-15381 *	US-PATENT-APPL-SN-127984	c 33	N75-27250 *	US-PATENT-APPL-SN-146939	c 35	N88-23962 *
US-PATENT-APPL								



US-PATENT-APPL-SN-147695	c 32	N84-27952 *	US-PATENT-APPL-SN-165943	c 37	N88-24971 *	US-PATENT-APPL-SN-182879	c 37	N82-32730 *
US-PATENT-APPL-SN-147700	c 27	N82-24339 *	US-PATENT-APPL-SN-165946	c 20	N88-24685 *	US-PATENT-APPL-SN-182880	c 37	N83-19091 *
US-PATENT-APPL-SN-147922	c 28	N73-17939 *	US-PATENT-APPL-SN-165956	c 18	N88-24671 *	US-PATENT-APPL-SN-182881	c 18	N83-28064 *
US-PATENT-APPL-SN-147940	c 14	N72-10375 *	US-PATENT-APPL-SN-166487	c 11	N73-32152 *	US-PATENT-APPL-SN-182977	c 39	N74-13131 *
US-PATENT-APPL-SN-147996	c 28	N73-24784 *	US-PATENT-APPL-SN-166541	c 14	N73-13415 *	US-PATENT-APPL-SN-182978	c 16	N73-13489 *
US-PATENT-APPL-SN-147997	c 15	N72-33477 *	US-PATENT-APPL-SN-166969	c 15	N70-34249 *	US-PATENT-APPL-SN-183240	c 06	N73-30098 *
US-PATENT-APPL-SN-148001	c 14	N73-34298 *	US-PATENT-APPL-SN-166970	c 15	N70-36409 *	US-PATENT-APPL-SN-183707	c 23	N85-33187 *
US-PATENT-APPL-SN-148756	c 15	N73-13466 *	US-PATENT-APPL-SN-167719	c 16	N73-33397 *	US-PATENT-APPL-SN-183977	c 28	N70-38505 *
US-PATENT-APPL-SN-149283	c 35	N74-17153 *	US-PATENT-APPL-SN-168065	c 35	N88-24942 *	US-PATENT-APPL-SN-183978	c 15	N70-38020 *
US-PATENT-APPL-SN-149526	c 52	N82-33996 *	US-PATENT-APPL-SN-168068	c 14	N72-22445 *	US-PATENT-APPL-SN-184090	c 14	N73-32327 *
US-PATENT-APPL-SN-149821	c 31	N88-23917 *	US-PATENT-APPL-SN-168560	c 02	N70-34856 *	US-PATENT-APPL-SN-184234	c 76	N88-25358 *
US-PATENT-APPL-SN-149822	c 35	N88-23960 *	US-PATENT-APPL-SN-168650	c 14	N73-13416 *	US-PATENT-APPL-SN-184235	c 32	N88-24846 *
US-PATENT-APPL-SN-149830	c 37	N88-23974 *	US-PATENT-APPL-SN-168943	c 54	N82-26987 *	US-PATENT-APPL-SN-184236	c 37	N88-24973 *
US-PATENT-APPL-SN-149983	c 31	N72-21893 *	US-PATENT-APPL-SN-168944	c 37	N82-32731 *	US-PATENT-APPL-SN-18427	c 09	N72-23172 *
US-PATENT-APPL-SN-150040	c 36	N82-29589 *	US-PATENT-APPL-SN-169671	c 10	N73-30205 *	US-PATENT-APPL-SN-184649	c 07	N70-36911 *
US-PATENT-APPL-SN-150115	c 44	N82-16475 *	US-PATENT-APPL-SN-169962	c 34	N74-30608 *	US-PATENT-APPL-SN-184960	c 06	N73-27980 *
US-PATENT-APPL-SN-15019	c 15	N72-17455 *	US-PATENT-APPL-SN-169977	c 14	N70-34794 *	US-PATENT-APPL-SN-185865	c 52	N80-33081 *
US-PATENT-APPL-SN-15020	c 14	N70-34697 *	US-PATENT-APPL-SN-170440	c 15	N73-13462 *	US-PATENT-APPL-SN-185867	c 44	N82-26777 *
US-PATENT-APPL-SN-150215	c 33	N73-25952 *	US-PATENT-APPL-SN-170544	c 36	N77-19416 *	US-PATENT-APPL-SN-185868	c 24	N84-16262 *
US-PATENT-APPL-SN-15022	c 15	N72-21465 *	US-PATENT-APPL-SN-170680	c 34	N74-15652 *	US-PATENT-APPL-SN-185869	c 71	N82-16800 *
US-PATENT-APPL-SN-15023	c 15	N70-34699 *	US-PATENT-APPL-SN-170681	c 10	N73-25240 *	US-PATENT-APPL-SN-186700	c 32	N74-12912 *
US-PATENT-APPL-SN-15024	c 09	N72-21245 *	US-PATENT-APPL-SN-17101	c 28	N72-18766 *	US-PATENT-APPL-SN-186881	c 74	N82-30071 *
US-PATENT-APPL-SN-15025	c 03	N72-20033 *	US-PATENT-APPL-SN-171928	c 33	N82-26570 *	US-PATENT-APPL-SN-187106	c 74	N83-17305 *
US-PATENT-APPL-SN-150690	c 35	N79-33450 *	US-PATENT-APPL-SN-171933	c 37	N82-12441 *	US-PATENT-APPL-SN-187143	c 36	N74-13205 *
US-PATENT-APPL-SN-151112	c 15	N70-34814 *	US-PATENT-APPL-SN-171934	c 35	N82-26628 *	US-PATENT-APPL-SN-187262	c 15	N73-27406 *
US-PATENT-APPL-SN-151114	c 31	N70-34176 *	US-PATENT-APPL-SN-172098	c 33	N80-29583 *	US-PATENT-APPL-SN-187365	c 35	N74-15127 *
US-PATENT-APPL-SN-151111	c 07	N73-26118 *	US-PATENT-APPL-SN-172099	c 32	N82-27558 *	US-PATENT-APPL-SN-187446	c 31	N70-37924 *
US-PATENT-APPL-SN-151412	c 09	N73-32112 *	US-PATENT-APPL-SN-172100	c 27	N82-33520 *	US-PATENT-APPL-SN-187716	c 74	N88-25305 *
US-PATENT-APPL-SN-151413	c 14	N73-12447 *	US-PATENT-APPL-SN-172101	c 31	N88-24818 *	US-PATENT-APPL-SN-18776	c 28	N70-33284 *
US-PATENT-APPL-SN-151598	c 03	N70-34134 *	US-PATENT-APPL-SN-172102	c 26	N88-24753 *	US-PATENT-APPL-SN-18780	c 12	N70-33305 *
US-PATENT-APPL-SN-15222	c 18	N72-25539 *	US-PATENT-APPL-SN-172103	c 26	N88-24753 *	US-PATENT-APPL-SN-188160	c 74	N82-19029 *
US-PATENT-APPL-SN-152328	c 02	N74-20646 *	US-PATENT-APPL-SN-172105	c 33	N88-24864 *	US-PATENT-APPL-SN-188594	c 15	N70-34967 *
US-PATENT-APPL-SN-152849	c 15	N73-30457 *	US-PATENT-APPL-SN-172459	c 06	N73-16106 *	US-PATENT-APPL-SN-188836	c 35	N74-34857 *
US-PATENT-APPL-SN-153240	c 33	N86-19515 *	US-PATENT-APPL-SN-172727	c 33	N81-26360 *	US-PATENT-APPL-SN-188927	c 08	N73-32081 *
US-PATENT-APPL-SN-153245	c 74	N83-29032 *	US-PATENT-APPL-SN-172807	c 07	N73-28012 *	US-PATENT-APPL-SN-189280	c 37	N74-13178 *
US-PATENT-APPL-SN-153246	c 52	N82-29863 *	US-PATENT-APPL-SN-173081	c 28	N70-36806 *	US-PATENT-APPL-SN-189290	c 14	N73-27379 *
US-PATENT-APPL-SN-153266	c 02	N70-38011 *	US-PATENT-APPL-SN-173178	c 33	N77-21315 *	US-PATENT-APPL-SN-189375	c 18	N73-14584 *
US-PATENT-APPL-SN-153542	c 28	N73-32606 *	US-PATENT-APPL-SN-173185	c 23	N73-13660 *	US-PATENT-APPL-SN-189438	c 35	N76-15431 *
US-PATENT-APPL-SN-153543	c 08	N73-26176 *	US-PATENT-APPL-SN-173190	c 05	N73-32015 *	US-PATENT-APPL-SN-189648	c 32	N70-36536 *
US-PATENT-APPL-SN-153543	c 37	N75-27376 *	US-PATENT-APPL-SN-173518	c 60	N82-29013 *	US-PATENT-APPL-SN-18982	c 28	N72-11708 *
US-PATENT-APPL-SN-153624	c 33	N72-27959 *	US-PATENT-APPL-SN-173519	c 44	N82-26776 *	US-PATENT-APPL-SN-190185	c 74	N88-25304 *
US-PATENT-APPL-SN-154094	c 02	N81-26073 *	US-PATENT-APPL-SN-173520	c 31	N83-27058 *	US-PATENT-APPL-SN-190316	c 17	N73-32414 *
US-PATENT-APPL-SN-154663	c 09	N82-29330 *	US-PATENT-APPL-SN-173524	c 35	N82-32659 *	US-PATENT-APPL-SN-191301	c 25	N74-12813 *
US-PATENT-APPL-SN-154663	c 33	N88-24863 *	US-PATENT-APPL-SN-173981	c 14	N70-35666 *	US-PATENT-APPL-SN-191744	c 33	N82-29538 *
US-PATENT-APPL-SN-154711	c 37	N88-24969 *	US-PATENT-APPL-SN-174684	c 33	N75-31331 *	US-PATENT-APPL-SN-191746	c 26	N81-16209 *
US-PATENT-APPL-SN-154712	c 72	N88-25281 *	US-PATENT-APPL-SN-175267	c 14	N73-28486 *	US-PATENT-APPL-SN-191746	c 26	N82-30371 *
US-PATENT-APPL-SN-154716	c 74	N88-25302 *	US-PATENT-APPL-SN-175452	c 27	N81-27272 *	US-PATENT-APPL-SN-191748	c 35	N82-31659 *
US-PATENT-APPL-SN-154718	c 74	N88-25301 *	US-PATENT-APPL-SN-175453	c 27	N85-21347 *	US-PATENT-APPL-SN-192016	c 03	N70-36778 *
US-PATENT-APPL-SN-154725	c 37	N82-24493 *	US-PATENT-APPL-SN-175453	c 85	N82-33288 *	US-PATENT-APPL-SN-192101	c 10	N73-20254 *
US-PATENT-APPL-SN-154726	c 25	N81-25159 *	US-PATENT-APPL-SN-175497	c 08	N73-28045 *	US-PATENT-APPL-SN-192141	c 07	N73-24176 *
US-PATENT-APPL-SN-154930	c 44	N76-14600 *	US-PATENT-APPL-SN-175852	c 25	N73-25760 *	US-PATENT-APPL-SN-192562	c 04	N88-24621 *
US-PATENT-APPL-SN-154933	c 14	N73-25463 *	US-PATENT-APPL-SN-175881	c 09	N73-15235 *	US-PATENT-APPL-SN-192563	c 05	N88-24628 *
US-PATENT-APPL-SN-154935	c 11	N72-27262 *	US-PATENT-APPL-SN-175981	c 16	N73-30476 *	US-PATENT-APPL-SN-192803	c 07	N73-22076 *
US-PATENT-APPL-SN-155565	c 08	N73-25206 *	US-PATENT-APPL-SN-175983	c 31	N73-32750 *	US-PATENT-APPL-SN-192803	c 35	N76-16391 *
US-PATENT-APPL-SN-155584	c 09	N70-40123 *	US-PATENT-APPL-SN-176545	c 31	N88-24817 *	US-PATENT-APPL-SN-192970	c 23	N73-30665 *
US-PATENT-APPL-SN-155595	c 26	N73-28710 *	US-PATENT-APPL-SN-176547	c 76	N88-25355 *	US-PATENT-APPL-SN-193456	c 10	N73-25243 *
US-PATENT-APPL-SN-155596	c 15	N73-32361 *	US-PATENT-APPL-SN-176587	c 20	N88-24684 *	US-PATENT-APPL-SN-193671	c 15	N73-12488 *
US-PATENT-APPL-SN-155598	c 15	N73-28516 *	US-PATENT-APPL-SN-177684	c 28	N70-34860 *	US-PATENT-APPL-SN-193672	c 54	N74-14845 *
US-PATENT-APPL-SN-156059	c 37	N88-24972 *	US-PATENT-APPL-SN-177753	c 07	N72-20154 *	US-PATENT-APPL-SN-193814	c 14	N73-30393 *
US-PATENT-APPL-SN-156393	c 35	N88-24941 *	US-PATENT-APPL-SN-177985	c 35	N74-15831 *	US-PATENT-APPL-SN-193947	c 14	N73-13420 *
US-PATENT-APPL-SN-156393	c 74	N88-25303 *	US-PATENT-APPL-SN-178192	c 25	N83-33977 *	US-PATENT-APPL-SN-193980	c 31	N74-13177 *
US-PATENT-APPL-SN-156724	c 21	N73-13643 *	US-PATENT-APPL-SN-178193	c 52	N82-29862 *	US-PATENT-APPL-SN-195061	c 05	N73-25125 *
US-PATENT-APPL-SN-156725	c 14	N73-27377 *	US-PATENT-APPL-SN-178195	c 35	N82-24470 *	US-PATENT-APPL-SN-195221	c 04	N88-24620 *
US-PATENT-APPL-SN-156778	c 17	N72-28535 *	US-PATENT-APPL-SN-178213	c 25	N70-33267 *	US-PATENT-APPL-SN-195222	c 31	N88-24814 *
US-PATENT-APPL-SN-156790	c 25	N82-29371 *	US-PATENT-APPL-SN-178215	c 25	N70-34661 *	US-PATENT-APPL-SN-195223	c 35	N83-21311 *
US-PATENT-APPL-SN-157150	c 37	N84-33808 *	US-PATENT-APPL-SN-178721	c 03	N70-35408 *	US-PATENT-APPL-SN-195225	c 32	N88-26541 *
US-PATENT-APPL-SN-158530	c 27	N83-19900 *	US-PATENT-APPL-SN-178771	c 23	N75-14834 *	US-PATENT-APPL-SN-195226	c 31	N83-31895 *
US-PATENT-APPL-SN-158914	c 11	N70-36913 *	US-PATENT-APPL-SN-180230	c 33	N83-18996 *	US-PATENT-APPL-SN-195226	c 17	N88-27220 *
US-PATENT-APPL-SN-158916	c 05	N70-41819 *	US-PATENT-APPL-SN-180370	c 28	N70-33375 *	US-PATENT-APPL-SN-195227	c 74	N83-32577 *
US-PATENT-APPL-SN-159613	c 35	N88-24943 *	US-PATENT-APPL-SN-180374	c 28	N70-38181 *	US-PATENT-APPL-SN-195228	c 74	N83-10900 *
US-PATENT-APPL-SN-159804	c 11	N70-38196 *	US-PATENT-APPL-SN-180377	c 15	N70-36908 *	US-PATENT-APPL-SN-195346	c 15	N70-36492 *
US-PATENT-APPL-SN-159857	c 05	N73-26072 *	US-PATENT-APPL-SN-180379	c 21	N70-35395 *	US-PATENT-APPL-SN-195347	c 31	N70-34135 *
US-PATENT-APPL-SN-159966	c 31	N73-26876 *	US-PATENT-APPL-SN-180380	c 09	N70-38998 *	US-PATENT-APPL-SN-195547	c 32	N83-18975 *
US-PATENT-APPL-SN-160093	c 04	N78-17031 *	US-PATENT-APPL-SN-180381	c 21	N70-35089 *	US-PATENT-APPL-SN-19572	c 35	N77-27368 *
US-PATENT-APPL-SN-160859	c 32	N73-26910 *	US-PATENT-APPL-SN-180382	c 28	N70-38645 *	US-PATENT-APPL-SN-19585	c 15	N72-25455 *
US-PATENT-APPL-SN-160860	c 18	N73-32437 *	US-PATENT-APPL-SN-180384	c 11	N70-38675 *	US-PATENT-APPL-SN-196399	c 07	N73-25161 *
US-PATENT-APPL-SN-161028	c 14	N73-19420 *	US-PATENT-APPL-SN-180391	c 28	N70-38249 *	US-PATENT-APPL-SN-196877	c 35	N84-17555 *
US-PATENT-APPL-SN-161254	c 27	N82-28441 *	US-PATENT-APPL-SN-180392	c 09	N71-13530 *	US-PATENT-APPL-SN-196898	c 38	N74-15130 *
US-PATENT-APPL-SN-161255	c 28	N81-24280 *	US-PATENT-APPL-SN-180394	c 15	N70-38603 *	US-PATENT-APPL-SN-196931	c 35	N74-17885 *
US-PATENT-APPL-SN-161256	c 44	N82-32841 *	US-PATENT-APPL-SN-180395	c 15	N70-36947 *	US-PATENT-APPL-SN-196970	c 15	N73-33383 *
US-PATENT-APPL-SN-161257	c 37	N85-29282 *	US-PATENT-APPL-SN-180396	c 11	N70-38202 *	US-PATENT-APPL-SN-197183	c 02	N76-22154 *
US-PATENT-APPL-SN-161681	c 76	N88-25357 *	US-PATENT-APPL-SN-180473	c 28	N73-27699 *	US-PATENT-APPL-SN-197191	c 32	N88-24845 *
US-PATENT-APPL-SN-162100	c 33	N74-14939 *	US-PATENT-APPL-SN-180683	c 10	N73-25241 *	US-PATENT-APPL-SN-197548	c 09	N70-34502 *
US-PATENT-APPL-SN-162101	c 14	N73-24473 *	US-PATENT-APPL-SN-180963	c 14	N73-27378 *	US-PATENT-APPL-SN-197551	c 31	N70-34296 *
US-PATENT-APPL-SN-162230	c 26	N72-28761 *	US-PATENT-APPL-SN-181023	c 15	N73-26472 *	US-PATENT-APPL-SN-197553	c 08	N70-34778 *
US-PATENT-APPL-SN-162380	c 36	N74-21091 *	US-PATENT-APPL-SN-181024	c 07	N73-26117 *	US-PATENT-APPL-SN-197554	c 14	N70-35368 *
US-PATENT-APPL-SN-163122	c 07	N83-31603 *	US-PATENT-APPL-SN-181828	c 02	N70-34858 *	US-PATENT-APPL-SN-197689	c 31	N74-14133 *
US-PATENT-APPL-SN-163151	c 74	N75-25706 *	US-PATENT-APPL-SN-181829	c 31	N70-38010 *	US-PATENT-APPL-SN-197689	c 31	N75-13111 *
US-PATENT-APPL-SN-163152	c 17	N83-32232 *	US-PATENT-APPL-SN-182000	c 16	N88-24660 *	US-PATENT-APPL-SN-197870	c 14	N73-32322 *
US-PATENT-APPL-SN-163837	c 47	N83-32232 *	US-PATENT-APPL-SN-182033	c 33	N73-27796 *	US-PATENT-APPL-SN-198093	c 39	N83-20280 *
US-PATENT-APPL-SN-163838	c 23	N82-28353 *	US-PATENT-APPL-SN-182266	c 17	N88-24662 *	US-PATENT-APPL-SN-198285	c 09	N73-13208 *
US-PATENT-APPL-SN-163840	c 37	N81-33482 *	US-PATENT-APPL-SN-182399	c 07	N73-28013 *	US-PATENT-APPL-SN-198289	c 14	N73-32326 *
US-PATENT-APPL-SN-164584	c 24	N83-33950 *	US-PATENT-APPL-SN-182692	c 15	N70-36535 *	US-PATENT-APPL-SN-198355	c 05	N72-15098 *
US-PATENT-APPL-SN								

US-PATENT-APPL-SN-198763	c 31	N74-18124 *	US-PATENT-APPL-SN-214086	c 14	N73-30395 *	US-PATENT-APPL-SN-231604	c 28	N70-39925 *
US-PATENT-APPL-SN-198763	c 31	N74-32920 *	US-PATENT-APPL-SN-214089	c 35	N74-21018 *	US-PATENT-APPL-SN-231662	c 14	N73-30392 *
US-PATENT-APPL-SN-198885	c 05	N73-27062 *	US-PATENT-APPL-SN-214361	c 37	N83-32067 *	US-PATENT-APPL-SN-232021	c 04	N74-13420 *
US-PATENT-APPL-SN-199199	c 25	N71-29184 *	US-PATENT-APPL-SN-21508	c 08	N72-20176 *	US-PATENT-APPL-SN-232318	c 11	N71-15960 *
US-PATENT-APPL-SN-199202	c 14	N70-40239 *	US-PATENT-APPL-SN-21644	c 05	N72-22092 *	US-PATENT-APPL-SN-232735	c 76	N89-14119 *
US-PATENT-APPL-SN-19971	c 09	N70-33312 *	US-PATENT-APPL-SN-216710	c 12	N70-38997 *	US-PATENT-APPL-SN-232914	c 15	N70-36412 *
US-PATENT-APPL-SN-199765	c 33	N81-12330 *	US-PATENT-APPL-SN-216711	c 03	N70-34157 *	US-PATENT-APPL-SN-233098	c 12	N73-25262 *
US-PATENT-APPL-SN-199766	c 36	N84-28065 *	US-PATENT-APPL-SN-216939	c 14	N70-40400 *	US-PATENT-APPL-SN-233173	c 12	N73-28144 *
US-PATENT-APPL-SN-199767	c 33	N83-16626 *	US-PATENT-APPL-SN-217213	c 37	N74-11301 *	US-PATENT-APPL-SN-233269	c 76	N82-30105 *
US-PATENT-APPL-SN-199768	c 27	N84-22746 *	US-PATENT-APPL-SN-21732	c 15	N70-26819 *	US-PATENT-APPL-SN-233270	c 52	N83-27578 *
US-PATENT-APPL-SN-199768	c 27	N85-20123 *	US-PATENT-APPL-SN-217336	c 27	N82-29456 *	US-PATENT-APPL-SN-233271	c 27	N83-34043 *
US-PATENT-APPL-SN-199769	c 26	N82-31505 *	US-PATENT-APPL-SN-217533	c 76	N88-29602 *	US-PATENT-APPL-SN-233519	c 20	N74-13502 *
US-PATENT-APPL-SN-199957	c 10	N73-26229 *	US-PATENT-APPL-SN-217725	c 35	N89-12843 *	US-PATENT-APPL-SN-233587	c 16	N72-22520 *
US-PATENT-APPL-SN-200040	c 52	N74-10975 *	US-PATENT-APPL-SN-218585	c 27	N82-24340 *	US-PATENT-APPL-SN-233743	c 37	N74-13179 *
US-PATENT-APPL-SN-200085	c 26	N73-26751 *	US-PATENT-APPL-SN-218586	c 36	N81-22344 *	US-PATENT-APPL-SN-234222	c 34	N85-21568 *
US-PATENT-APPL-SN-200634	c 34	N83-27144 *	US-PATENT-APPL-SN-218587	c 27	N82-28440 *	US-PATENT-APPL-SN-234223	c 35	N83-21312 *
US-PATENT-APPL-SN-200682	c 07	N73-14130 *	US-PATENT-APPL-SN-218588	c 27	N82-33521 *	US-PATENT-APPL-SN-234224	c 36	N83-34304 *
US-PATENT-APPL-SN-200717	c 09	N73-19234 *	US-PATENT-APPL-SN-218965	c 10	N73-32145 *	US-PATENT-APPL-SN-234225	c 33	N83-36357 *
US-PATENT-APPL-SN-200762	c 03	N73-20040 *	US-PATENT-APPL-SN-219016	c 24	N88-29888 *	US-PATENT-APPL-SN-234568	c 28	N70-34788 *
US-PATENT-APPL-SN-200770	c 09	N79-21084 *	US-PATENT-APPL-SN-21906	c 09	N72-17157 *	US-PATENT-APPL-SN-235150	c 36	N89-12856 *
US-PATENT-APPL-SN-200874	c 17	N88-28946 *	US-PATENT-APPL-SN-219435	c 24	N74-27035 *	US-PATENT-APPL-SN-235162	c 08	N71-12501 *
US-PATENT-APPL-SN-201700	c 33	N74-17930 *	US-PATENT-APPL-SN-219436	c 15	N72-21489 *	US-PATENT-APPL-SN-235266	c 26	N73-23271 *
US-PATENT-APPL-SN-201782	c 15	N73-19458 *	US-PATENT-APPL-SN-219590	c 06	N73-32030 *	US-PATENT-APPL-SN-235268	c 36	N74-15145 *
US-PATENT-APPL-SN-201904	c 15	N73-30458 *	US-PATENT-APPL-SN-219640	c 74	N83-13978 *	US-PATENT-APPL-SN-235269	c 09	N73-30181 *
US-PATENT-APPL-SN-201904	c 37	N74-15128 *	US-PATENT-APPL-SN-219677	c 44	N82-31764 *	US-PATENT-APPL-SN-235295	c 09	N73-30185 *
US-PATENT-APPL-SN-201904	c 37	N74-21064 *	US-PATENT-APPL-SN-219678	c 44	N82-29709 *	US-PATENT-APPL-SN-235332	c 07	N72-21117 *
US-PATENT-APPL-SN-202024	c 14	N70-34156 *	US-PATENT-APPL-SN-219680	c 27	N82-28442 *	US-PATENT-APPL-SN-235338	c 71	N74-31148 *
US-PATENT-APPL-SN-202029	c 11	N70-34786 *	US-PATENT-APPL-SN-219681	c 24	N82-29362 *	US-PATENT-APPL-SN-235472	c 60	N84-28492 *
US-PATENT-APPL-SN-202030	c 31	N71-10747 *	US-PATENT-APPL-SN-219681	c 54	N84-11758 *	US-PATENT-APPL-SN-235588	c 28	N71-28928 *
US-PATENT-APPL-SN-202228	c 34	N82-11399 *	US-PATENT-APPL-SN-219722	c 03	N75-30132 *	US-PATENT-APPL-SN-235796	c 35	N82-28604 *
US-PATENT-APPL-SN-202228	c 34	N85-29179 *	US-PATENT-APPL-SN-219806	c 07	N74-28226 *	US-PATENT-APPL-SN-235797	c 44	N83-32175 *
US-PATENT-APPL-SN-202250	c 19	N74-21015 *	US-PATENT-APPL-SN-219968	c 33	N83-27126 *	US-PATENT-APPL-SN-235868	c 34	N83-29625 *
US-PATENT-APPL-SN-202769	c 05	N73-27941 *	US-PATENT-APPL-SN-220212	c 33	N83-31952 *	US-PATENT-APPL-SN-235957	c 14	N73-27376 *
US-PATENT-APPL-SN-203177	c 39	N88-25011 *	US-PATENT-APPL-SN-220213	c 37	N85-20337 *	US-PATENT-APPL-SN-235962	c 36	N74-11313 *
US-PATENT-APPL-SN-203178	c 34	N88-24910 *	US-PATENT-APPL-SN-220214	c 44	N82-29710 *	US-PATENT-APPL-SN-236052	c 14	N72-25428 *
US-PATENT-APPL-SN-203271	c 51	N74-15778 *	US-PATENT-APPL-SN-220251	c 37	N74-15125 *	US-PATENT-APPL-SN-236281	c 09	N73-20232 *
US-PATENT-APPL-SN-203276	c 32	N88-30001 *	US-PATENT-APPL-SN-220274	c 31	N72-20840 *	US-PATENT-APPL-SN-236285	c 08	N73-26175 *
US-PATENT-APPL-SN-203405	c 02	N73-26006 *	US-PATENT-APPL-SN-220274	c 18	N74-22136 *	US-PATENT-APPL-SN-236748	c 14	N70-40157 *
US-PATENT-APPL-SN-203409	c 28	N70-38197 *	US-PATENT-APPL-SN-220785	c 85	N74-34672 *	US-PATENT-APPL-SN-236749	c 15	N70-40180 *
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US-PATENT-APPL-SN-20370	c 33	N79-33393 *	US-PATENT-APPL-SN-221276	c 14	N70-41955 *	US-PATENT-APPL-SN-237029	c 09	N73-32108 *
US-PATENT-APPL-SN-204015	c 09	N70-38201 *	US-PATENT-APPL-SN-221387	c 36	N89-14428 *	US-PATENT-APPL-SN-237035	c 35	N89-13764 *
US-PATENT-APPL-SN-205047	c 15	N73-32360 *	US-PATENT-APPL-SN-221388	c 37	N89-12865 *	US-PATENT-APPL-SN-237491	c 05	N75-12930 *
US-PATENT-APPL-SN-205047	c 08	N71-18752 *	US-PATENT-APPL-SN-221472	c 54	N89-13889 *	US-PATENT-APPL-SN-237694	c 35	N74-11284 *
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US-PATENT-APPL-SN-205771	c 31	N88-29050 *	US-PATENT-APPL-SN-221637	c 26	N70-36805 *	US-PATENT-APPL-SN-238257	c 07	N84-33410 *
US-PATENT-APPL-SN-205898	c 09	N88-28938 *	US-PATENT-APPL-SN-221670	c 35	N77-14408 *	US-PATENT-APPL-SN-238263	c 35	N74-10415 *
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US-PATENT-APPL-SN-205900	c 35	N88-30105 *	US-PATENT-APPL-SN-221714	c 09	N73-32110 *	US-PATENT-APPL-SN-238264	c 37	N74-32921 *
US-PATENT-APPL-SN-206266	c 76	N74-20329 *	US-PATENT-APPL-SN-221833	c 09	N73-27150 *	US-PATENT-APPL-SN-238421	c 28	N71-29153 *
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US-PATENT-APPL-SN-206279	c 05	N76-29217 *	US-PATENT-APPL-SN-223003	c 33	N70-36846 *	US-PATENT-APPL-SN-238790	c 44	N82-29708 *
US-PATENT-APPL-SN-206506	c 33	N82-24422 *	US-PATENT-APPL-SN-223124	c 31	N88-29051 *	US-PATENT-APPL-SN-238791	c 71	N84-14873 *
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US-PATENT-APPL-SN-20960	c 15	N72-17453 *	US-PATENT-APPL-SN-225427	c 37	N88-30130 *	US-PATENT-APPL-SN-239575	c 09	N74-19528 *
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US-PATENT-APPL-SN-210405	c 74	N84-11921 *	US-PATENT-APPL-SN-226551	c 06	N73-26100 *	US-PATENT-APPL-SN-241061	c 06	N72-27151 *
US-PATENT-APPL-SN-210445	c 29	N88-29048 *	US-PATENT-APPL-SN-227682	c 14	N70-34161 *	US-PATENT-APPL-SN-241061	c 06	N73-30076 *
US-PATENT-APPL-SN-210480	c 05	N88-29789 *	US-PATENT-APPL-SN-227683	c 02	N70-36804 *	US-PATENT-APPL-SN-241085	c 14	N70-40238 *
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US-PATENT-APPL-SN-210506	c 39	N83-32081 *	US-PATENT-APPL-SN-228150	c 05	N73-32013 *	US-PATENT-APPL-SN-24154	c 15	N72-17450 *
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US-PATENT-APPL-SN-212174	c 15	N70-34859 *	US-PATENT-APPL-SN-229143	c 09	N72-21248 *	US-PATENT-APPL-SN-242662	c 74	N74-15095 *
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US-PATENT-APPL-SN-246056	c 38	N74-15395 *		US-PATENT-APPL-SN-263675	c 02	N70-33286 *	US-PATENT-APPL-SN-280305	c 34	N74-23039 *
US-PATENT-APPL-SN-246294	c 27	N82-29454 *		US-PATENT-APPL-SN-263755	c 02	N70-34858 *	US-PATENT-APPL-SN-280362	c 14	N71-28935 *
US-PATENT-APPL-SN-246295	c 27	N82-29452 *		US-PATENT-APPL-SN-263815	c 09	N74-17955 *	US-PATENT-APPL-SN-280390	c 37	N74-15128 *
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US-PATENT-APPL-SN-246773	c 35	N83-29650 *		US-PATENT-APPL-SN-263830	c 44	N83-28573 *	US-PATENT-APPL-SN-280777	c 08	N70-41961 *
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US-PATENT-APPL-SN-246777	c 45	N83-25217 *		US-PATENT-APPL-SN-264268	c 31	N78-17328 *	US-PATENT-APPL-SN-281077	c 21	N70-33279 *
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US-PATENT-APPL-SN-254177	c 10	N73-26230 *		US-PATENT-APPL-SN-272234	c 44	N81-27615 *	US-PATENT-APPL-SN-291845	c 62	N74-27566 *
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US-PATENT-APPL-SN-301078	c 08	N85-19985 *	US-PATENT-APPL-SN-319894	c 03	N71-11053 *	US-PATENT-APPL-SN-3418	c 15	N72-20446 *
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US-PATENT-APPL-SN-303670	c 37	N82-11469 *	US-PATENT-APPL-SN-322312	c 25	N84-22709 *	US-PATENT-APPL-SN-343425	c 11	N70-35383 *
US-PATENT-APPL-SN-303671	c 31	N83-31896 *	US-PATENT-APPL-SN-322314	c 35	N84-12443 *	US-PATENT-APPL-SN-343426	c 07	N71-20814 *
US-PATENT-APPL-SN-303672	c 71	N83-32516 *	US-PATENT-APPL-SN-322316	c 31	N83-19947 *	US-PATENT-APPL-SN-343607	c 18	N74-27397 *
US-PATENT-APPL-SN-304430	c 52	N74-27864 *	US-PATENT-APPL-SN-322317	c 46	N85-21846 *	US-PATENT-APPL-SN-343760	c 07	N71-28979 *
US-PATENT-APPL-SN-304698	c 32	N70-41579 *	US-PATENT-APPL-SN-322321	c 37	N85-21651 *	US-PATENT-APPL-SN-344410	c 07	N74-33218 *
US-PATENT-APPL-SN-304705	c 32	N74-20810 *	US-PATENT-APPL-SN-322545	c 14	N71-10774 *	US-PATENT-APPL-SN-344793	c 03	N71-11058 *
US-PATENT-APPL-SN-304749	c 11	N71-16028 *	US-PATENT-APPL-SN-322565	c 37	N75-27376 *	US-PATENT-APPL-SN-345372	c 33	N74-22814 *
US-PATENT-APPL-SN-30498	c 37	N74-21063 *	US-PATENT-APPL-SN-322997	c 37	N75-15992 *	US-PATENT-APPL-SN-346356	c 14	N70-41676 *
US-PATENT-APPL-SN-305012	c 35	N74-15094 *	US-PATENT-APPL-SN-322997	c 24	N79-25143 *	US-PATENT-APPL-SN-346361	c 37	N74-21064 *
US-PATENT-APPL-SN-305013	c 14	N73-13435 *	US-PATENT-APPL-SN-322998	c 35	N74-32877 *	US-PATENT-APPL-SN-346372	c 35	N75-12270 *
US-PATENT-APPL-SN-305020	c 21	N70-34295 *	US-PATENT-APPL-SN-323182	c 03	N70-41864 *	US-PATENT-APPL-SN-346483	c 37	N74-32927 *
US-PATENT-APPL-SN-305638	c 34	N74-23066 *	US-PATENT-APPL-SN-324029	c 32	N74-27612 *	US-PATENT-APPL-SN-346483	c 37	N76-15461 *
US-PATENT-APPL-SN-305639	c 37	N74-27904 *	US-PATENT-APPL-SN-32496	c 15	N70-37925 *	US-PATENT-APPL-SN-347101	c 09	N70-41675 *
US-PATENT-APPL-SN-306652	c 33	N74-32712 *	US-PATENT-APPL-SN-325082	c 35	N83-29652 *	US-PATENT-APPL-SN-347626	c 15	N70-40204 *
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US-PATENT-APPL-SN-307271	c 09	N71-22999 *	US-PATENT-APPL-SN-325885	c 35	N82-25484 *	US-PATENT-APPL-SN-347960	c 03	N70-39930 *
US-PATENT-APPL-SN-307714	c 03	N76-32140 *	US-PATENT-APPL-SN-325886	c 33	N83-34190 *	US-PATENT-APPL-SN-348422	c 27	N76-15311 *
US-PATENT-APPL-SN-307727	c 32	N74-20813 *	US-PATENT-APPL-SN-325931	c 37	N82-26674 *	US-PATENT-APPL-SN-348600	c 28	N71-29154 *
US-PATENT-APPL-SN-307728	c 34	N74-27861 *	US-PATENT-APPL-SN-325932	c 33	N84-16455 *	US-PATENT-APPL-SN-348787	c 33	N75-19521 *
US-PATENT-APPL-SN-307729	c 31	N74-27900 *	US-PATENT-APPL-SN-325933	c 76	N83-20789 *	US-PATENT-APPL-SN-349778	c 09	N70-40234 *
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US-PATENT-APPL-SN-308009	c 33	N83-36355 *	US-PATENT-APPL-SN-326298	c 14	N71-22765 *	US-PATENT-APPL-SN-349782	c 09	N71-16086 *
US-PATENT-APPL-SN-308201	c 27	N83-28240 *	US-PATENT-APPL-SN-326299	c 26	N71-17818 *	US-PATENT-APPL-SN-34989	c 36	N74-13205 *
US-PATENT-APPL-SN-308201	c 27	N85-21349 *	US-PATENT-APPL-SN-326326	c 35	N74-32879 *	US-PATENT-APPL-SN-350249	c 36	N75-15028 *
US-PATENT-APPL-SN-308203	c 34	N84-12406 *	US-PATENT-APPL-SN-326327	c 44	N74-27519 *	US-PATENT-APPL-SN-350250	c 27	N75-27160 *
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US-PATENT-APPL-SN-309291	c 37	N88-23982 *	US-PATENT-APPL-SN-326665	c 14	N72-22444 *	US-PATENT-APPL-SN-350472	c 33	N84-14424 *
US-PATENT-APPL-SN-309292	c 37	N84-28085 *	US-PATENT-APPL-SN-327163	c 03	N71-20895 *	US-PATENT-APPL-SN-350473	c 07	N84-22595 *
US-PATENT-APPL-SN-309293	c 25	N83-13187 *	US-PATENT-APPL-SN-327565	c 02	N70-36825 *	US-PATENT-APPL-SN-350474	c 35	N84-22928 *
US-PATENT-APPL-SN-309354	c 11	N71-15926 *	US-PATENT-APPL-SN-327921	c 54	N75-13531 *	US-PATENT-APPL-SN-350475	c 35	N84-28017 *
US-PATENT-APPL-SN-310034	c 32	N74-30524 *	US-PATENT-APPL-SN-327969	c 35	N75-13213 *	US-PATENT-APPL-SN-350476	c 26	N84-22734 *
US-PATENT-APPL-SN-310193	c 33	N74-27682 *	US-PATENT-APPL-SN-328140	c 18	N71-21651 *	US-PATENT-APPL-SN-350477	c 35	N84-33675 *
US-PATENT-APPL-SN-310506	c 10	N71-16042 *	US-PATENT-APPL-SN-328760	c 31	N83-35177 *	US-PATENT-APPL-SN-351259	c 15	N71-10762 *
US-PATENT-APPL-SN-310507	c 07	N71-11298 *	US-PATENT-APPL-SN-328792	c 35	N75-12273 *	US-PATENT-APPL-SN-351929	c 33	N75-14957 *
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US-PATENT-APPL-SN-310616	c 35	N74-21017 *	US-PATENT-APPL-SN-329243	c 28	N74-33209 *	US-PATENT-APPL-SN-352381	c 20	N75-18310 *
US-PATENT-APPL-SN-310624	c 33	N74-17929 *	US-PATENT-APPL-SN-329331	c 15	N71-15906 *	US-PATENT-APPL-SN-352381	c 37	N76-14461 *
US-PATENT-APPL-SN-310714	c 33	N82-11360 *	US-PATENT-APPL-SN-329595	c 05	N70-41329 *	US-PATENT-APPL-SN-352382	c 60	N75-13539 *
US-PATENT-APPL-SN-311175	c 52	N74-22771 *	US-PATENT-APPL-SN-329958	c 33	N74-22885 *	US-PATENT-APPL-SN-352383	c 35	N75-16783 *
US-PATENT-APPL-SN-311234	c 35	N74-23040 *	US-PATENT-APPL-SN-330209	c 15	N70-41646 *	US-PATENT-APPL-SN-352400	c 26	N71-10607 *
US-PATENT-APPL-SN-311387	c 23	N71-30027 *	US-PATENT-APPL-SN-330210	c 14	N71-21090 *	US-PATENT-APPL-SN-352821	c 44	N84-28205 *
US-PATENT-APPL-SN-312269	c 28	N71-14043 *	US-PATENT-APPL-SN-331323	c 07	N71-16088 *	US-PATENT-APPL-SN-352827	c 35	N84-28015 *
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US-PATENT-APPL-SN-312443	c 10	N71-21473 *	US-PATENT-APPL-SN-331359	c 10	N72-11256 *	US-PATENT-APPL-SN-352831	c 35	N84-16523 *
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US-PATENT-APPL-SN-314074	c 15	N71-16079 *	US-PATENT-APPL-SN-332339	c 07	N71-11284 *	US-PATENT-APPL-SN-353644	c 07	N71-23098 *
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US-PATENT-APPL-SN-314572	c 14	N71-15992 *	US-PATENT-APPL-SN-333537	c 44	N83-32176 *	US-PATENT-APPL-SN-354060	c 74	N76-19935 *
US-PATENT-APPL-SN-314656	c 51	N77-25769 *	US-PATENT-APPL-SN-333766	c 31	N71-15663 *	US-PATENT-APPL-SN-354126	c 37	N82-22496 *
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US-PATENT-APPL-SN-3151	c 05	N72-27102 *	US-PATENT-APPL-SN-335201	c 33	N74-17927 *	US-PATENT-APPL-SN-355129	c 14	N70-41957 *
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US-PATENT-APPL-SN-357336	c 03	N71-12259 *	US-PATENT-APPL-SN-372730	c 28	N71-28850 *	US-PATENT-APPL-SN-390251	c 07	N71-23026 *
US-PATENT-APPL-SN-357337	c 15	N71-10782 *	US-PATENT-APPL-SN-373587	c 33	N74-32711 *	US-PATENT-APPL-SN-390466	c 24	N75-13032 *
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US-PATENT-APPL-SN-358088	c 35	N84-33767 *	US-PATENT-APPL-SN-373591	c 31	N71-15692 *	US-PATENT-APPL-SN-391343	c 05	N69-21473 *
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US-PATENT-APPL-SN-358127	c 05	N71-12335 *	US-PATENT-APPL-SN-373771	c 35	N84-22934 *	US-PATENT-APPL-SN-392092	c 51	N84-28361 *
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US-PATENT-APPL-SN-359382	c 32	N85-34327 *	US-PATENT-APPL-SN-374424	c 74	N75-12732 *	US-PATENT-APPL-SN-392104	c 37	N85-20338 *
US-PATENT-APPL-SN-359388	c 44	N83-32177 *	US-PATENT-APPL-SN-374441	c 35	N75-19616 *	US-PATENT-APPL-SN-392823	c 25	N74-33378 *
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US-PATENT-APPL-SN-359626	c 35	N84-28018 *	US-PATENT-APPL-SN-374810	c 27	N80-32514 *	US-PATENT-APPL-SN-392965	c 18	N71-22998 *
US-PATENT-APPL-SN-359627	c 35	N82-26631 *	US-PATENT-APPL-SN-375401	c 17	N71-16025 *	US-PATENT-APPL-SN-392969	c 09	N71-23573 *
US-PATENT-APPL-SN-359627	c 35	N85-29214 *	US-PATENT-APPL-SN-375405	c 31	N71-15675 *	US-PATENT-APPL-SN-392970	c 32	N70-41367 *
US-PATENT-APPL-SN-359957	c 07	N74-32418 *	US-PATENT-APPL-SN-375620	c 43	N85-21723 *	US-PATENT-APPL-SN-392973	c 07	N71-23001 *
US-PATENT-APPL-SN-359958	c 37	N74-26976 *	US-PATENT-APPL-SN-375674	c 28	N70-41582 *	US-PATENT-APPL-SN-392992	c 15	N71-23052 *
US-PATENT-APPL-SN-360180	c 17	N71-16026 *	US-PATENT-APPL-SN-375680	c 10	N71-28739 *	US-PATENT-APPL-SN-39342	c 09	N72-25252 *
US-PATENT-APPL-SN-360182	c 31	N70-36654 *	US-PATENT-APPL-SN-375682	c 31	N70-41588 *	US-PATENT-APPL-SN-39343	c 34	N74-18552 *
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US-PATENT-APPL-SN-361666	c 33	N75-30428 *	US-PATENT-APPL-SN-377146	c 14	N71-23041 *	US-PATENT-APPL-SN-393464	c 23	N71-21821 *
US-PATENT-APPL-SN-361711	c 24	N82-26387 *	US-PATENT-APPL-SN-377777	c 32	N70-42003 *	US-PATENT-APPL-SN-393523	c 12	N75-24774 *
US-PATENT-APPL-SN-361711	c 24	N84-16262 *	US-PATENT-APPL-SN-377780	c 11	N71-10604 *	US-PATENT-APPL-SN-393524	c 60	N76-21914 *
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US-PATENT-APPL-SN-361907	c 35	N74-27865 *	US-PATENT-APPL-SN-377891	c 52	N84-34913 *	US-PATENT-APPL-SN-393526	c 77	N75-20139 *
US-PATENT-APPL-SN-362145	c 32	N75-26194 *	US-PATENT-APPL-SN-377892	c 33	N83-24763 *	US-PATENT-APPL-SN-393527	c 15	N75-13007 *
US-PATENT-APPL-SN-362146	c 33	N75-18479 *	US-PATENT-APPL-SN-378080	c 12	N71-24692 *	US-PATENT-APPL-SN-393528	c 36	N75-19654 *
US-PATENT-APPL-SN-362261	c 14	N73-32325 *	US-PATENT-APPL-SN-378126	c 44	N76-18643 *	US-PATENT-APPL-SN-393581	c 54	N84-23113 *
US-PATENT-APPL-SN-362278	c 37	N78-17385 *	US-PATENT-APPL-SN-378127	c 44	N76-18641 *	US-PATENT-APPL-SN-393582	c 37	N85-21649 *
US-PATENT-APPL-SN-363130	c 25	N81-19244 *	US-PATENT-APPL-SN-378533	c 37	N84-11497 *	US-PATENT-APPL-SN-393583	c 27	N83-29392 *
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US-PATENT-APPL-SN-363691	c 20	N76-14190 *	US-PATENT-APPL-SN-379072	c 15	N71-16078 *	US-PATENT-APPL-SN-393588	c 25	N84-16276 *
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US-PATENT-APPL-SN-364097	c 71	N82-27086 *	US-PATENT-APPL-SN-380046	c 25	N76-29379 *	US-PATENT-APPL-SN-394898	c 07	N77-28118 *
US-PATENT-APPL-SN-364126	c 36	N84-22943 *	US-PATENT-APPL-SN-380630	c 37	N75-21631 *	US-PATENT-APPL-SN-395348	c 15	N71-22713 *
US-PATENT-APPL-SN-364867	c 09	N71-10673 *	US-PATENT-APPL-SN-380960	c 15	N70-41993 *	US-PATENT-APPL-SN-395493	c 37	N79-13364 *
US-PATENT-APPL-SN-365244	c 37	N78-17386 *	US-PATENT-APPL-SN-380965	c 10	N71-23033 *	US-PATENT-APPL-SN-395495	c 54	N75-27759 *
US-PATENT-APPL-SN-36531	c 07	N72-25174 *	US-PATENT-APPL-SN-381940	c 09	N71-20705 *	US-PATENT-APPL-SN-395687	c 37	N75-18573 *
US-PATENT-APPL-SN-36534	c 21	N73-14692 *	US-PATENT-APPL-SN-382261	c 35	N76-14430 *	US-PATENT-APPL-SN-395688	c 33	N75-19516 *
US-PATENT-APPL-SN-3654	c 35	N77-27367 *	US-PATENT-APPL-SN-382262	c 37	N74-21058 *	US-PATENT-APPL-SN-395895	c 36	N78-17366 *
US-PATENT-APPL-SN-365644	c 35	N74-26946 *	US-PATENT-APPL-SN-38262	c 28	N70-35422 *	US-PATENT-APPL-SN-396443	c 15	N71-15986 *
US-PATENT-APPL-SN-365950	c 27	N83-18908 *	US-PATENT-APPL-SN-382976	c 15	N71-21179 *	US-PATENT-APPL-SN-396444	c 10	N71-20782 *
US-PATENT-APPL-SN-366025	c 27	N84-22744 *	US-PATENT-APPL-SN-383063	c 37	N84-12493 *	US-PATENT-APPL-SN-397281	c 76	N83-34796 *
US-PATENT-APPL-SN-366103	c 76	N84-35112 *	US-PATENT-APPL-SN-383068	c 44	N84-34792 *	US-PATENT-APPL-SN-397476	c 34	N75-12222 *
US-PATENT-APPL-SN-366226	c 10	N71-16057 *	US-PATENT-APPL-SN-383083	c 33	N84-16453 *	US-PATENT-APPL-SN-397477	c 33	N75-19177 *
US-PATENT-APPL-SN-367132	c 32	N85-21427 *	US-PATENT-APPL-SN-383086	c 36	N85-21639 *	US-PATENT-APPL-SN-397478	c 52	N75-33640 *
US-PATENT-APPL-SN-367134	c 44	N83-34449 *	US-PATENT-APPL-SN-383384	c 06	N84-27753 *	US-PATENT-APPL-SN-39755	c 08	N72-21198 *
US-PATENT-APPL-SN-367136	c 35	N85-21596 *	US-PATENT-APPL-SN-384010	c 10	N71-28859 *	US-PATENT-APPL-SN-397665	c 10	N70-41991 *
US-PATENT-APPL-SN-367187	c 04	N84-14132 *	US-PATENT-APPL-SN-384547	c 36	N85-29264 *	US-PATENT-APPL-SN-398131	c 05	N70-41297 *
US-PATENT-APPL-SN-367268	c 05	N75-25914 *	US-PATENT-APPL-SN-384773	c 15	N76-14158 *	US-PATENT-APPL-SN-398132	c 15	N70-41808 *
US-PATENT-APPL-SN-367293	c 36	N75-19655 *	US-PATENT-APPL-SN-384811	c 15	N71-10809 *	US-PATENT-APPL-SN-398885	c 27	N76-15310 *
US-PATENT-APPL-SN-367294	c 76	N75-12810 *	US-PATENT-APPL-SN-385013	c 35	N75-19613 *	US-PATENT-APPL-SN-398886	c 07	N75-24736 *
US-PATENT-APPL-SN-367606	c 75	N75-13625 *	US-PATENT-APPL-SN-385059	c 33	N77-21315 *	US-PATENT-APPL-SN-398901	c 37	N75-25186 *
US-PATENT-APPL-SN-367606	c 75	N76-17951 *	US-PATENT-APPL-SN-385220	c 36	N85-30305 *	US-PATENT-APPL-SN-399074	c 33	N88-14271 *
US-PATENT-APPL-SN-368123	c 09	N71-10618 *	US-PATENT-APPL-SN-385520	c 14	N71-23037 *	US-PATENT-APPL-SN-399419	c 21	N71-23289 *
US-PATENT-APPL-SN-368187	c 54	N84-11758 *	US-PATENT-APPL-SN-385522	c 34	N75-33342 *	US-PATENT-APPL-SN-400467	c 33	N75-30431 *
US-PATENT-APPL-SN-368188	c 33	N84-33663 *	US-PATENT-APPL-SN-385526	c 12	N71-16031 *	US-PATENT-APPL-SN-400613	c 15	N71-21528 *
US-PATENT-APPL-SN-368189	c 18	N84-22605 *	US-PATENT-APPL-SN-385527	c 31	N71-17729 *	US-PATENT-APPL-SN-400617	c 31	N71-17629 *
US-PATENT-APPL-SN-36819	c 23	N72-22673 *	US-PATENT-APPL-SN-385530	c 09	N71-10798 *	US-PATENT-APPL-SN-400857	c 31	N79-21225 *
US-PATENT-APPL-SN-36926	c 28	N72-23810 *	US-PATENT-APPL-SN-386467	c 14	N70-40233 *	US-PATENT-APPL-SN-401224	c 38	N78-17396 *
US-PATENT-APPL-SN-369334	c 21	N71-22880 *	US-PATENT-APPL-SN-386789	c 35	N75-12271 *	US-PATENT-APPL-SN-401225	c 38	N78-17399 *
US-PATENT-APPL-SN-369336	c 09	N71-10659 *	US-PATENT-APPL-SN-386790	c 09	N75-12968 *	US-PATENT-APPL-SN-401282	c 18	N85-29991 *
US-PATENT-APPL-SN-369337	c 15	N70-41811 *	US-PATENT-APPL-SN-386793	c 35	N75-25124 *	US-PATENT-APPL-SN-401288	c 37	N84-28081 *
US-PATENT-APPL-SN-369338	c 08	N71-28925 *	US-PATENT-APPL-SN-386800	c 15	N71-21404 *	US-PATENT-APPL-SN-401466	c 09	N75-24758 *
US-PATENT-APPL-SN-369640	c 32	N70-41370 *	US-PATENT-APPL-SN-387094	c 37	N77-19457 *	US-PATENT-APPL-SN-401919	c 24	N76-24363 *
US-PATENT-APPL-SN-3696	c 10	N72-20224 *	US-PATENT-APPL-SN-387095	c 37	N75-33395 *	US-PATENT-APPL-SN-401920	c 37	N75-25185 *
US-PATENT-APPL-SN-370134	c 30	N70-40353 *	US-PATENT-APPL-SN-387266	c 35	N75-27328 *	US-PATENT-APPL-SN-401921	c 24	N76-14203 *
US-PATENT-APPL-SN-370135	c 11	N70-41677 *	US-PATENT-APPL-SN-387332	c 15	N70-33226 *	US-PATENT-APPL-SN-402205	c 33	N85-30187 *
US-PATENT-APPL-SN-370255	c 33	N75-18477 *	US-PATENT-APPL-SN-387342	c 37	N76-18457 *	US-PATENT-APPL-SN-402365	c 31	N71-17730 *
US-PATENT-APPL-SN-370271	c 32	N75-24981 *	US-PATENT-APPL-SN-387646	c 37	N85-30336 *	US-PATENT-APPL-SN-402865	c 33	N74-32660 *
US-PATENT-APPL-SN-37050	c 33	N74-26732 *	US-PATENT-APPL-SN-387647	c 33	N85-34333 *	US-PATENT-APPL-SN-402867	c 35	N75-33367 *
US-PATENT-APPL-SN-370582	c 18	N76-14186 *	US-PATENT-APPL-SN-387648	c 37	N85-21650 *	US-PATENT-APPL-SN-402868	c 35	N75-19612 *
US-PATENT-APPL-SN-370872	c 37	N74-32918 *	US-PATENT-APPL-SN-387649	c 09	N85-19990 *	US-PATENT-APPL-SN-402978	c 10	N71-23084 *
US-PATENT-APPL-SN-370989	c 23	N71-29049 *	US-PATENT-APPL-SN-387728	c 37	N84-28084 *	US-PATENT-APPL-SN-403154	c 37	N77-22480 *
US-PATENT-APPL-SN-370989	c 74	N78-15879 *	US-PATENT-APPL-SN-388023	c 10	N70-41964 *	US-PATENT-APPL-SN-403371	c 27	N82-33523 *
US-PATENT-APPL-SN-371322	c 44	N76-14600 *	US-PATENT-APPL-SN-388024	c 32	N71-17609 *	US-PATENT-APPL-SN-403378	c 26	N84-33555 *
US-PATENT-APPL-SN-371351	c 76	N84-35113 *	US-PATENT-APPL-SN-388114	c 15	N72-11385 *	US-PATENT-APPL-SN-403694	c 54	N75-12616 *
US-PATENT-APPL-SN-371352	c 52	N84-11744 *	US-PATENT-APPL-SN-38816	c 70	N74-13436 *	US-PATENT-APPL-SN-403695	c 35	N77-20399 *
US-PATENT-APPL-SN-371856	c 15	N70-42033 *	US-PATENT-APPL-SN-38816	c 74	N78-15879 *	US-PATENT-APPL-SN-403847	c 31	N83-35176 *
US-PATENT-APPL-SN-3718								



US-PATENT-APPL-SN-403960	c 14	N70-41366 *	US-PATENT-APPL-SN-422096	c 03	N71-29044 *	US-PATENT-APPL-SN-439489	c 09	N70-41717 *
US-PATENT-APPL-SN-404212	c 14	N73-32324 *	US-PATENT-APPL-SN-422097	c 11	N71-21481 *	US-PATENT-APPL-SN-439490	c 23	N69-24332 *
US-PATENT-APPL-SN-404809	c 27	N84-27885 *	US-PATENT-APPL-SN-422098	c 15	N71-22797 *	US-PATENT-APPL-SN-440033	c 27	N70-41897 *
US-PATENT-APPL-SN-404809	c 25	N85-28982 *	US-PATENT-APPL-SN-422099	c 14	N71-22964 *	US-PATENT-APPL-SN-440036	c 09	N71-23097 *
US-PATENT-APPL-SN-405341	c 37	N76-15460 *	US-PATENT-APPL-SN-422864	c 05	N69-21925 *	US-PATENT-APPL-SN-440039	c 09	N71-22888 *
US-PATENT-APPL-SN-405342	c 35	N75-19615 *	US-PATENT-APPL-SN-422865	c 31	N70-41631 *	US-PATENT-APPL-SN-440066	c 27	N85-21348 *
US-PATENT-APPL-SN-405346	c 37	N75-30562 *	US-PATENT-APPL-SN-422867	c 15	N70-40062 *	US-PATENT-APPL-SN-440916	c 33	N75-27252 *
US-PATENT-APPL-SN-405629	c 09	N71-10677 *	US-PATENT-APPL-SN-422868	c 15	N71-10617 *	US-PATENT-APPL-SN-440917	c 37	N76-18459 *
US-PATENT-APPL-SN-405630	c 14	N71-10616 *	US-PATENT-APPL-SN-422869	c 14	N71-10779 *	US-PATENT-APPL-SN-441279	c 35	N75-29382 *
US-PATENT-APPL-SN-405632	c 21	N71-15582 *	US-PATENT-APPL-SN-423016	c 36	N85-21631 *	US-PATENT-APPL-SN-441897	c 35	N84-33768 *
US-PATENT-APPL-SN-406097	c 14	N71-21088 *	US-PATENT-APPL-SN-423412	c 08	N71-22897 *	US-PATENT-APPL-SN-441899	c 27	N84-14322 *
US-PATENT-APPL-SN-406296	c 25	N79-10163 *	US-PATENT-APPL-SN-424013	c 34	N76-27517 *	US-PATENT-APPL-SN-441936	c 14	N69-39975 *
US-PATENT-APPL-SN-406715	c 35	N75-15014 *	US-PATENT-APPL-SN-424038	c 24	N75-30260 *	US-PATENT-APPL-SN-442558	c 15	N71-10799 *
US-PATENT-APPL-SN-406820	c 74	N86-32266 *	US-PATENT-APPL-SN-424153	c 15	N71-21234 *	US-PATENT-APPL-SN-442815	c 76	N87-23286 *
US-PATENT-APPL-SN-407240	c 27	N83-34041 *	US-PATENT-APPL-SN-424156	c 02	N71-23007 *	US-PATENT-APPL-SN-442835	c 26	N71-29156 *
US-PATENT-APPL-SN-407240	c 27	N85-20124 *	US-PATENT-APPL-SN-424157	c 28	N70-41275 *	US-PATENT-APPL-SN-444087	c 02	N71-11041 *
US-PATENT-APPL-SN-407323	c 32	N75-21485 *	US-PATENT-APPL-SN-425096	c 05	N71-23080 *	US-PATENT-APPL-SN-444124	c 52	N84-23095 *
US-PATENT-APPL-SN-407595	c 28	N70-41992 *	US-PATENT-APPL-SN-425201	c 04	N86-19304 *	US-PATENT-APPL-SN-444125	c 20	N83-17588 *
US-PATENT-APPL-SN-407599	c 14	N71-21091 *	US-PATENT-APPL-SN-425202	c 74	N85-34629 *	US-PATENT-APPL-SN-444149	c 47	N84-28292 *
US-PATENT-APPL-SN-407603	c 05	N71-11199 *	US-PATENT-APPL-SN-425203	c 35	N84-22930 *	US-PATENT-APPL-SN-444150	c 35	N84-22932 *
US-PATENT-APPL-SN-408435	c 15	N71-28937 *	US-PATENT-APPL-SN-425204	c 32	N85-29117 *	US-PATENT-APPL-SN-445178	c 37	N76-15461 *
US-PATENT-APPL-SN-408438	c 07	N71-22750 *	US-PATENT-APPL-SN-425205	c 35	N85-21595 *	US-PATENT-APPL-SN-445292	c 11	N71-23030 *
US-PATENT-APPL-SN-408442	c 10	N71-23662 *	US-PATENT-APPL-SN-425362	c 15	N71-10658 *	US-PATENT-APPL-SN-445398	c 74	N78-15880 *
US-PATENT-APPL-SN-408575	c 35	N83-32026 *	US-PATENT-APPL-SN-425363	c 09	N71-20658 *	US-PATENT-APPL-SN-445807	c 14	N71-22996 *
US-PATENT-APPL-SN-409126	c 18	N71-21068 *	US-PATENT-APPL-SN-425364	c 33	N71-15623 *	US-PATENT-APPL-SN-446071	c 25	N82-29370 *
US-PATENT-APPL-SN-409678	c 09	N84-27749 *	US-PATENT-APPL-SN-425365	c 32	N71-21045 *	US-PATENT-APPL-SN-446131	c 14	N71-22992 *
US-PATENT-APPL-SN-409679	c 33	N82-33634 *	US-PATENT-APPL-SN-425972	c 03	N71-23006 *	US-PATENT-APPL-SN-446560	c 12	N76-15189 *
US-PATENT-APPL-SN-409679	c 33	N84-22884 *	US-PATENT-APPL-SN-426155	c 33	N75-15874 *	US-PATENT-APPL-SN-446562	c 36	N76-14447 *
US-PATENT-APPL-SN-409680	c 35	N85-20294 *	US-PATENT-APPL-SN-426405	c 25	N75-26043 *	US-PATENT-APPL-SN-446564	c 35	N75-26334 *
US-PATENT-APPL-SN-409990	c 35	N75-27330 *	US-PATENT-APPL-SN-426455	c 28	N71-15661 *	US-PATENT-APPL-SN-446567	c 34	N76-27515 *
US-PATENT-APPL-SN-409991	c 33	N75-13139 *	US-PATENT-APPL-SN-426702	c 15	N70-42034 *	US-PATENT-APPL-SN-446568	c 37	N76-23570 *
US-PATENT-APPL-SN-410325	c 18	N71-23088 *	US-PATENT-APPL-SN-427395	c 54	N75-27760 *	US-PATENT-APPL-SN-446569	c 77	N75-20140 *
US-PATENT-APPL-SN-410326	c 09	N71-21449 *	US-PATENT-APPL-SN-427775	c 27	N76-22376 *	US-PATENT-APPL-SN-447124	c 35	N75-30503 *
US-PATENT-APPL-SN-410330	c 26	N71-23043 *	US-PATENT-APPL-SN-427990	c 06	N71-23527 *	US-PATENT-APPL-SN-447371	c 27	N84-22746 *
US-PATENT-APPL-SN-410331	c 02	N70-41589 *	US-PATENT-APPL-SN-428444	c 44	N76-18642 *	US-PATENT-APPL-SN-447927	c 11	N71-10776 *
US-PATENT-APPL-SN-410332	c 14	N71-23039 *	US-PATENT-APPL-SN-428444	c 44	N76-29704 *	US-PATENT-APPL-SN-447928	c 15	N71-10577 *
US-PATENT-APPL-SN-411572	c 35	N75-15932 *	US-PATENT-APPL-SN-428882	c 31	N70-41948 *	US-PATENT-APPL-SN-447930	c 14	N69-39986 *
US-PATENT-APPL-SN-411944	c 15	N70-41629 *	US-PATENT-APPL-SN-428887	c 33	N71-29051 *	US-PATENT-APPL-SN-447933	c 03	N69-21337 *
US-PATENT-APPL-SN-411945	c 18	N71-23047 *	US-PATENT-APPL-SN-428890	c 02	N70-41630 *	US-PATENT-APPL-SN-448320	c 91	N76-30131 *
US-PATENT-APPL-SN-411949	c 27	N71-15635 *	US-PATENT-APPL-SN-428992	c 34	N77-18382 *	US-PATENT-APPL-SN-448321	c 27	N78-32261 *
US-PATENT-APPL-SN-412039	c 06	N84-34443 *	US-PATENT-APPL-SN-428993	c 45	N75-27585 *	US-PATENT-APPL-SN-448323	c 18	N76-17185 *
US-PATENT-APPL-SN-412079	c 37	N75-13266 *	US-PATENT-APPL-SN-428994	c 32	N75-21486 *	US-PATENT-APPL-SN-448325	c 33	N75-26244 *
US-PATENT-APPL-SN-412080	c 36	N75-19653 *	US-PATENT-APPL-SN-428994	c 32	N76-16249 *	US-PATENT-APPL-SN-448365	c 10	N71-26414 *
US-PATENT-APPL-SN-412379	c 32	N77-10392 *	US-PATENT-APPL-SN-428995	c 51	N75-25503 *	US-PATENT-APPL-SN-448881	c 32	N85-29118 *
US-PATENT-APPL-SN-413101	c 07	N86-20389 *	US-PATENT-APPL-SN-429437	c 35	N75-23910 *	US-PATENT-APPL-SN-448898	c 15	N70-41310 *
US-PATENT-APPL-SN-41345	c 09	N72-29172 *	US-PATENT-APPL-SN-429932	c 05	N71-20268 *	US-PATENT-APPL-SN-449118	c 33	N75-19524 *
US-PATENT-APPL-SN-41346	c 15	N72-24522 *	US-PATENT-APPL-SN-430192	c 18	N71-27170 *	US-PATENT-APPL-SN-449153	c 54	N75-27761 *
US-PATENT-APPL-SN-41347	c 09	N72-25256 *	US-PATENT-APPL-SN-430226	c 18	N71-23658 *	US-PATENT-APPL-SN-449901	c 28	N70-41967 *
US-PATENT-APPL-SN-41348	c 09	N72-23173 *	US-PATENT-APPL-SN-430496	c 26	N75-29236 *	US-PATENT-APPL-SN-449902	c 14	N70-41681 *
US-PATENT-APPL-SN-413661	c 15	N71-23024 *	US-PATENT-APPL-SN-430748	c 76	N79-21910 *	US-PATENT-APPL-SN-450166	c 33	N84-27975 *
US-PATENT-APPL-SN-413662	c 09	N70-41929 *	US-PATENT-APPL-SN-430776	c 03	N70-41954 *	US-PATENT-APPL-SN-450319	c 33	N84-33661 *
US-PATENT-APPL-SN-414042	c 35	N79-17192 *	US-PATENT-APPL-SN-430777	c 18	N71-24184 *	US-PATENT-APPL-SN-450500	c 37	N76-18455 *
US-PATENT-APPL-SN-414043	c 27	N76-32315 *	US-PATENT-APPL-SN-430778	c 03	N71-10728 *	US-PATENT-APPL-SN-450502	c 37	N76-18456 *
US-PATENT-APPL-SN-41404	c 03	N73-20039 *	US-PATENT-APPL-SN-430780	c 03	N71-12260 *	US-PATENT-APPL-SN-450504	c 23	N77-17161 *
US-PATENT-APPL-SN-414106	c 54	N84-16803 *	US-PATENT-APPL-SN-431235	c 15	N71-16052 *	US-PATENT-APPL-SN-450505	c 37	N73-31446 *
US-PATENT-APPL-SN-414107	c 35	N84-22932 *	US-PATENT-APPL-SN-431420	c 37	N85-29282 *	US-PATENT-APPL-SN-450503	c 33	N75-31330 *
US-PATENT-APPL-SN-414237	c 35	N85-30282 *	US-PATENT-APPL-SN-431448	c 37	N84-22957 *	US-PATENT-APPL-SN-451596	c 17	N71-29137 *
US-PATENT-APPL-SN-41430	c 10	N72-20221 *	US-PATENT-APPL-SN-431886	c 18	N84-27787 *	US-PATENT-APPL-SN-451896	c 26	N86-32551 *
US-PATENT-APPL-SN-41431	c 37	N77-27400 *	US-PATENT-APPL-SN-432025	c 15	N71-21531 *	US-PATENT-APPL-SN-452464	c 24	N84-11213 *
US-PATENT-APPL-SN-414482	c 10	N71-10578 *	US-PATENT-APPL-SN-432026	c 07	N71-23405 *	US-PATENT-APPL-SN-452465	c 25	N83-17628 *
US-PATENT-APPL-SN-41455	c 02	N70-33255 *	US-PATENT-APPL-SN-432027	c 21	N70-41930 *	US-PATENT-APPL-SN-452466	c 03	N84-33394 *
US-PATENT-APPL-SN-415486	c 37	N75-19683 *	US-PATENT-APPL-SN-432028	c 15	N71-22723 *	US-PATENT-APPL-SN-452761	c 33	N75-19522 *
US-PATENT-APPL-SN-415878	c 08	N86-27288 *	US-PATENT-APPL-SN-432030	c 12	N71-20896 *	US-PATENT-APPL-SN-452767	c 05	N75-25915 *
US-PATENT-APPL-SN-415879	c 37	N85-21652 *	US-PATENT-APPL-SN-432032	c 15	N69-24322 *	US-PATENT-APPL-SN-452768	c 52	N76-30793 *
US-PATENT-APPL-SN-415880	c 27	N84-27884 *	US-PATENT-APPL-SN-432057	c 33	N84-14423 *	US-PATENT-APPL-SN-452769	c 44	N76-16612 *
US-PATENT-APPL-SN-415960	c 37	N85-20337 *	US-PATENT-APPL-SN-432433	c 15	N71-22705 *	US-PATENT-APPL-SN-452770	c 33	N75-31332 *
US-PATENT-APPL-SN-416135	c 32	N75-15854 *	US-PATENT-APPL-SN-433196	c 44	N84-23019 *	US-PATENT-APPL-SN-452944	c 18	N71-21383 *
US-PATENT-APPL-SN-416938	c 11	N71-10746 *	US-PATENT-APPL-SN-433227	c 15	N72-26371 *	US-PATENT-APPL-SN-452945	c 18	N69-39979 *
US-PATENT-APPL-SN-416940	c 21	N71-21708 *	US-PATENT-APPL-SN-433598	c 27	N84-22747 *	US-PATENT-APPL-SN-453115	c 32	N76-14321 *
US-PATENT-APPL-SN-416941	c 31	N70-34159 *	US-PATENT-APPL-SN-433821	c 09	N71-16089 *	US-PATENT-APPL-SN-453225	c 15	N71-24833 *
US-PATENT-APPL-SN-416943	c 14	N71-23269 *	US-PATENT-APPL-SN-433968	c 33	N75-25041 *	US-PATENT-APPL-SN-453227	c 31	N71-10582 *
US-PATENT-APPL-SN-416945	c 10	N71-23543 *	US-PATENT-APPL-SN-434084	c 33	N84-27974 *	US-PATENT-APPL-SN-453229	c 17	N71-23828 *
US-PATENT-APPL-SN-416946	c 28	N71-15563 *	US-PATENT-APPL-SN-434085	c 33	N85-29145 *	US-PATENT-APPL-SN-453231	c 23	N71-15467 *
US-PATENT-APPL-SN-417253	c 11	N71-23042 *	US-PATENT-APPL-SN-434087	c 27	N86-19457 *	US-PATENT-APPL-SN-453232	c 15	N71-21311 *
US-PATENT-APPL-SN-418137	c 16	N84-22601 *	US-PATENT-APPL-SN-434143	c 15	N71-15871 *	US-PATENT-APPL-SN-453232	c 18	N75-19329 *
US-PATENT-APPL-SN-418138	c 16	N84-27784 *	US-PATENT-APPL-SN-434148	c 31	N71-24750 *	US-PATENT-APPL-SN-453241	c 33	N75-29318 *
US-PATENT-APPL-SN-418139	c 24	N84-27829 *	US-PATENT-APPL-SN-434672	c 34	N84-14461 *	US-PATENT-APPL-SN-455163	c 32	N75-26195 *
US-PATENT-APPL-SN-418362	c 14	N71-20741 *	US-PATENT-APPL-SN-434674	c 34	N83-35307 *	US-PATENT-APPL-SN-455165	c 36	N75-30524 *
US-PATENT-APPL-SN-418931	c 05	N70-42000 *	US-PATENT-APPL-SN-435387	c 10	N70-42032 *	US-PATENT-APPL-SN-455191	c 14	N72-25410 *
US-PATENT-APPL-SN-418933	c 15	N71-23022 *	US-PATENT-APPL-SN-435433	c 14	N71-30026 *	US-PATENT-APPL-SN-455352	c 33	N71-20834 *
US-PATENT-APPL-SN-419319	c 34	N76-17317 *	US-PATENT-APPL-SN-435511	c 27	N84-27886 *	US-PATENT-APPL-SN-455477	c 08	N71-19687 *
US-PATENT-APPL-SN-419747	c 17	N76-21250 *	US-PATENT-APPL-SN-435756	c 12	N71-16894 *	US-PATENT-APPL-SN-455499	c 27	N76-16228 *
US-PATENT-APPL-SN-419748	c 27	N76-14264 *	US-PATENT-APPL-SN-436313	c 54	N77-32721 *	US-PATENT-APPL-SN-456460	c 26	N84-27855 *
US-PATENT-APPL-SN-419831	c 35	N75-21582 *	US-PATENT-APPL-SN-436315	c 26	N75-19408 *	US-PATENT-APPL-SN-456578	c 07	N70-41678 *
US-PATENT-APPL-SN-419831	c 35	N77-17426 *	US-PATENT-APPL-SN-436316	c 20	N76-14191 *	US-PATENT-APPL-SN-456581	c 09	N71-23021 *
US-PATENT-APPL-SN-42022	c 15	N70-35409 *	US-PATENT-APPL-SN-436317	c 37	N76-24575 *	US-PATENT-APPL-SN-456874	c 06	N71-23499 *
US-PATENT-APPL-SN-420245	c 08	N71-22749 *	US-PATENT-APPL-SN-437556	c 27	N76-16230 *	US-PATENT-APPL-SN-457295	c 20	N75-24837 *
US-PATENT-APPL-SN-420250	c 15	N71-23051 *	US-PATENT-APPL-SN-437611	c 09	N71-22796 *	US-PATENT-APPL-SN-457874	c 09	N71-23545 *
US-PATENT-APPL-SN-420424	c 34	N75-26282 *	US-PATENT-APPL-SN-437912	c 33	N85-29142 *	US-PATENT-APPL-SN-457875	c 31	N70-42015 *
US-PATENT-APPL-SN-420466	c 14	N71-23092 *	US-PATENT-APPL-SN-437917	c 60	N85-33701 *	US-PATENT-APPL-SN-457876	c 02	N71-12243 *
US-PATENT-APPL-SN-420813	c 36	N75-32441 *	US-PATENT-APPL-SN-438135	c 09	N71-23027 *	US-PATENT-APPL-SN-457879	c 15	N71-21078 *
US-PATENT-APPL-SN-42088	c 34	N78-17336 *	US-PATENT-APPL-SN-438147	c 75	N76-14931 *	US-PATENT-APPL-SN-457990	c 85	N85-34722 *
US-PATENT-APPL-SN-421702	c 44	N75-32581 *	US-PATENT-APPL-SN-438446	c 74	N86-20126 *	US-PATENT-APPL-SN-457992	c 35	N85-29212 *
US-PATENT-APPL								



US-PATENT-APPL-SN-459736	c 33	N75-26245 *	US-PATENT-APPL-SN-478131	c 26	N87-14482 *	US-PATENT-APPL-SN-495381	c 24	N84-22695 *
US-PATENT-APPL-SN-459842	c 35	N85-30281 *	US-PATENT-APPL-SN-478491	c 14	N69-21363 * #	US-PATENT-APPL-SN-495381	c 24	N85-21267 *
US-PATENT-APPL-SN-460509	c 37	N84-33807 *	US-PATENT-APPL-SN-478800	c 37	N76-19436 *	US-PATENT-APPL-SN-496205	c 14	N71-22965 *
US-PATENT-APPL-SN-460733	c 37	N83-20154 * #	US-PATENT-APPL-SN-478802	c 35	N75-29381 *	US-PATENT-APPL-SN-496779	c 05	N76-29217 *
US-PATENT-APPL-SN-460876	c 09	N69-21470 * #	US-PATENT-APPL-SN-478803	c 31	N76-14284 *	US-PATENT-APPL-SN-498167	c 03	N71-10608 *
US-PATENT-APPL-SN-460877	c 33	N71-23085 *	US-PATENT-APPL-SN-479353	c 15	N71-23255 *	US-PATENT-APPL-SN-498168	c 28	N71-21822 *
US-PATENT-APPL-SN-461073	c 33	N75-26246 *	US-PATENT-APPL-SN-479357	c 36	N77-19416 *	US-PATENT-APPL-SN-499122	c 15	N71-24164 *
US-PATENT-APPL-SN-461477	c 37	N75-19686 *	US-PATENT-APPL-SN-480210	c 11	N71-21474 *	US-PATENT-APPL-SN-499126	c 23	N86-19376 *
US-PATENT-APPL-SN-461724	c 31	N85-21404 *	US-PATENT-APPL-SN-480211	c 14	N71-26135 *	US-PATENT-APPL-SN-500044	c 35	N85-21597 *
US-PATENT-APPL-SN-461765	c 17	N71-23046 *	US-PATENT-APPL-SN-481020	c 36	N83-29681 * #	US-PATENT-APPL-SN-500046	c 31	N87-16918 *
US-PATENT-APPL-SN-461788	c 27	N85-21349 *	US-PATENT-APPL-SN-481086	c 33	N84-33660 *	US-PATENT-APPL-SN-500435	c 14	N71-21082 *
US-PATENT-APPL-SN-462341	c 44	N76-31666 *	US-PATENT-APPL-SN-481106	c 09	N84-34448 *	US-PATENT-APPL-SN-500446	c 10	N71-23029 *
US-PATENT-APPL-SN-462424	c 24	N77-19171 *	US-PATENT-APPL-SN-482104	c 27	N76-22377 *	US-PATENT-APPL-SN-500651	c 07	N85-35195 *
US-PATENT-APPL-SN-462497	c 25	N85-21279 *	US-PATENT-APPL-SN-482105	c 27	N76-23426 *	US-PATENT-APPL-SN-500979	c 32	N76-18295 *
US-PATENT-APPL-SN-462508	c 35	N86-19580 *	US-PATENT-APPL-SN-482307	c 15	N71-21060 *	US-PATENT-APPL-SN-500980	c 72	N76-15860 *
US-PATENT-APPL-SN-462705	c 37	N75-19684 *	US-PATENT-APPL-SN-482311	c 05	N71-22748 *	US-PATENT-APPL-SN-500981	c 35	N77-10492 *
US-PATENT-APPL-SN-462762	c 12	N69-21466 * #	US-PATENT-APPL-SN-482313	c 11	N69-24321 * #	US-PATENT-APPL-SN-500982	c 75	N76-17951 *
US-PATENT-APPL-SN-462763	c 14	N71-22991 *	US-PATENT-APPL-SN-482670	c 14	N71-21007 *	US-PATENT-APPL-SN-501011	c 33	N76-18345 *
US-PATENT-APPL-SN-462844	c 33	N75-19520 *	US-PATENT-APPL-SN-482952	c 09	N71-28926 *	US-PATENT-APPL-SN-501012	c 33	N76-14373 *
US-PATENT-APPL-SN-462903	c 37	N76-14461 *	US-PATENT-APPL-SN-482953	c 74	N76-18913 *	US-PATENT-APPL-SN-501060	c 60	N84-28491 *
US-PATENT-APPL-SN-463456	c 37	N85-30333 *	US-PATENT-APPL-SN-482967	c 34	N76-18364 *	US-PATENT-APPL-SN-50206	c 07	N72-17109 *
US-PATENT-APPL-SN-463925	c 74	N76-30053 *	US-PATENT-APPL-SN-483301	c 36	N77-26477 *	US-PATENT-APPL-SN-50207	c 07	N72-20141 *
US-PATENT-APPL-SN-464720	c 32	N76-16249 *	US-PATENT-APPL-SN-483817	c 27	N79-21190 *	US-PATENT-APPL-SN-50208	c 14	N73-13418 *
US-PATENT-APPL-SN-464721	c 37	N75-26372 *	US-PATENT-APPL-SN-483850	c 37	N76-14460 *	US-PATENT-APPL-SN-502124	c 35	N76-16393 *
US-PATENT-APPL-SN-464722	c 35	N76-22509 *	US-PATENT-APPL-SN-483851	c 35	N76-15435 *	US-PATENT-APPL-SN-502135	c 35	N76-15433 *
US-PATENT-APPL-SN-464723	c 33	N75-30429 *	US-PATENT-APPL-SN-483852	c 33	N75-30430 *	US-PATENT-APPL-SN-502136	c 35	N75-27331 *
US-PATENT-APPL-SN-464878	c 10	N71-22986 *	US-PATENT-APPL-SN-483857	c 44	N76-14601 *	US-PATENT-APPL-SN-502137	c 37	N76-21554 *
US-PATENT-APPL-SN-464879	c 14	N71-21072 *	US-PATENT-APPL-SN-483858	c 35	N76-18400 *	US-PATENT-APPL-SN-502138	c 43	N77-10584 *
US-PATENT-APPL-SN-464880	c 33	N71-21586 *	US-PATENT-APPL-SN-483885	c 04	N71-23185 *	US-PATENT-APPL-SN-502693	c 15	N71-20739 *
US-PATENT-APPL-SN-464885	c 15	N71-22997 *	US-PATENT-APPL-SN-483886	c 09	N71-22988 *	US-PATENT-APPL-SN-502701	c 08	N71-23295 *
US-PATENT-APPL-SN-465363	c 52	N84-28389 *	US-PATENT-APPL-SN-483891	c 14	N69-39982 * #	US-PATENT-APPL-SN-502709	c 31	N71-21881 *
US-PATENT-APPL-SN-465364	c 44	N85-20530 *	US-PATENT-APPL-SN-484156	c 11	N71-21475 *	US-PATENT-APPL-SN-502710	c 15	N71-23048 *
US-PATENT-APPL-SN-465365	c 43	N86-19711 *	US-PATENT-APPL-SN-484208	c 35	N75-30502 *	US-PATENT-APPL-SN-502729	c 31	N70-41871 *
US-PATENT-APPL-SN-465366	c 27	N85-20126 *	US-PATENT-APPL-SN-484209	c 35	N76-18403 *	US-PATENT-APPL-SN-502739	c 09	N71-23311 *
US-PATENT-APPL-SN-465367	c 27	N84-22748 *	US-PATENT-APPL-SN-484485	c 01	N71-23497 *	US-PATENT-APPL-SN-502740	c 14	N69-27485 * #
US-PATENT-APPL-SN-465369	c 76	N86-28760 *	US-PATENT-APPL-SN-484489	c 10	N71-15909 *	US-PATENT-APPL-SN-502743	c 08	N71-19435 *
US-PATENT-APPL-SN-465370	c 52	N83-29991 * #	US-PATENT-APPL-SN-484490	c 24	N71-20518 *	US-PATENT-APPL-SN-502746	c 03	N69-39898 * #
US-PATENT-APPL-SN-466390	c 28	N71-20330 *	US-PATENT-APPL-SN-484745	c 35	N85-20295 *	US-PATENT-APPL-SN-502750	c 09	N71-19466 *
US-PATENT-APPL-SN-466868	c 22	N71-23599 *	US-PATENT-APPL-SN-484855	c 09	N71-19480 *	US-PATENT-APPL-SN-502753	c 07	N69-39978 * #
US-PATENT-APPL-SN-466873	c 17	N71-20743 *	US-PATENT-APPL-SN-485057	c 06	N71-23500 *	US-PATENT-APPL-SN-502756	c 03	N71-23336 *
US-PATENT-APPL-SN-466875	c 08	N71-22707 *	US-PATENT-APPL-SN-485058	c 28	N71-10574 *	US-PATENT-APPL-SN-502820	c 27	N85-21347 *
US-PATENT-APPL-SN-4667820	c 28	N71-26779 *	US-PATENT-APPL-SN-485957	c 25	N71-21694 *	US-PATENT-APPL-SN-50339	c 04	N72-33072 *
US-PATENT-APPL-SN-468614	c 60	N77-14751 *	US-PATENT-APPL-SN-485958	c 15	N71-24047 *	US-PATENT-APPL-SN-504225	c 35	N76-16392 *
US-PATENT-APPL-SN-468614	c 60	N77-32731 *	US-PATENT-APPL-SN-485960	c 15	N70-42017 *	US-PATENT-APPL-SN-504266	c 31	N71-21064 *
US-PATENT-APPL-SN-468614	c 60	N78-10709 *	US-PATENT-APPL-SN-48621	c 20	N78-32179 *	US-PATENT-APPL-SN-504345	c 33	N85-22877 *
US-PATENT-APPL-SN-468647	c 21	N71-10771 *	US-PATENT-APPL-SN-486470	c 44	N85-21768 *	US-PATENT-APPL-SN-505320	c 16	N71-18614 *
US-PATENT-APPL-SN-468655	c 15	N69-21471 * #	US-PATENT-APPL-SN-486471	c 33	N85-21492 *	US-PATENT-APPL-SN-505321	c 10	N71-22962 *
US-PATENT-APPL-SN-469011	c 11	N69-21540 * #	US-PATENT-APPL-SN-486573	c 10	N71-19469 *	US-PATENT-APPL-SN-505765	c 15	N71-23816 *
US-PATENT-APPL-SN-469012	c 25	N71-20747 *	US-PATENT-APPL-SN-486884	c 15	N73-32362 *	US-PATENT-APPL-SN-505819	c 33	N76-16331 *
US-PATENT-APPL-SN-469013	c 14	N69-27423 * #	US-PATENT-APPL-SN-487156	c 44	N77-10636 *	US-PATENT-APPL-SN-505881	c 09	N76-24280 *
US-PATENT-APPL-SN-469371	c 05	N86-19310 *	US-PATENT-APPL-SN-487341	c 14	N71-19431 *	US-PATENT-APPL-SN-506135	c 06	N71-20905 *
US-PATENT-APPL-SN-469864	c 37	N86-19605 *	US-PATENT-APPL-SN-487342	c 09	N71-21583 *	US-PATENT-APPL-SN-506137	c 15	N71-23049 *
US-PATENT-APPL-SN-469866	c 27	N84-22749 *	US-PATENT-APPL-SN-487343	c 03	N69-39890 * #	US-PATENT-APPL-SN-506477	c 33	N85-29146 *
US-PATENT-APPL-SN-470113	c 17	N87-16863 *	US-PATENT-APPL-SN-487344	c 15	N69-21472 * #	US-PATENT-APPL-SN-506803	c 24	N79-25143 *
US-PATENT-APPL-SN-470114	c 25	N83-24572 * #	US-PATENT-APPL-SN-487352	c 14	N71-18699 *	US-PATENT-APPL-SN-506804	c 35	N76-18402 *
US-PATENT-APPL-SN-470428	c 33	N76-16332 *	US-PATENT-APPL-SN-487852	c 23	N76-15268 *	US-PATENT-APPL-SN-506908	c 09	N71-18843 *
US-PATENT-APPL-SN-470429	c 33	N75-31329 *	US-PATENT-APPL-SN-487929	c 33	N74-20859 *	US-PATENT-APPL-SN-507254	c 14	N71-22990 *
US-PATENT-APPL-SN-47061	c 26	N72-25680 *	US-PATENT-APPL-SN-487934	c 15	N71-21530 *	US-PATENT-APPL-SN-507257	c 09	N71-19449 *
US-PATENT-APPL-SN-47062	c 15	N72-17451 *	US-PATENT-APPL-SN-487939	c 14	N71-23040 *	US-PATENT-APPL-SN-507623	c 31	N85-29083 *
US-PATENT-APPL-SN-47063	c 33	N72-25911 *	US-PATENT-APPL-SN-487940	c 10	N71-26434 *	US-PATENT-APPL-SN-507624	c 76	N85-30922 *
US-PATENT-APPL-SN-47063	c 33	N73-25952 *	US-PATENT-APPL-SN-488381	c 14	N73-32321 *	US-PATENT-APPL-SN-507625	c 76	N86-20150 *
US-PATENT-APPL-SN-47063	c 33	N71-28808 *	US-PATENT-APPL-SN-488616	c 07	N76-18117 *	US-PATENT-APPL-SN-507626	c 34	N85-29179 *
US-PATENT-APPL-SN-470902	c 06	N73-28084 *	US-PATENT-APPL-SN-488616	c 26	N75-27127 *	US-PATENT-APPL-SN-507629	c 18	N71-27397 *
US-PATENT-APPL-SN-471154	c 09	N73-32424 *	US-PATENT-APPL-SN-488745	c 23	N75-20256 *	US-PATENT-APPL-SN-508170	c 08	N71-22710 *
US-PATENT-APPL-SN-47120	c 31	N70-33915 *	US-PATENT-APPL-SN-489008	c 33	N76-19339 *	US-PATENT-APPL-SN-508371	c 05	N85-21147 *
US-PATENT-APPL-SN-47121	c 09	N70-34813 *	US-PATENT-APPL-SN-489009	c 33	N69-39884 * #	US-PATENT-APPL-SN-508372	c 43	N83-29783 * #
US-PATENT-APPL-SN-47122	c 14	N70-34813 *	US-PATENT-APPL-SN-489442	c 25	N85-29947 *	US-PATENT-APPL-SN-508601	c 15	N71-22878 *
US-PATENT-APPL-SN-47123	c 15	N70-34817 *	US-PATENT-APPL-SN-489675	c 05	N85-29947 *	US-PATENT-APPL-SN-508784	c 76	N76-25049 *
US-PATENT-APPL-SN-472066	c 31	N70-42075 *	US-PATENT-APPL-SN-491054	c 14	N71-23174 *	US-PATENT-APPL-SN-508873	c 14	N71-23240 *
US-PATENT-APPL-SN-472372	c 07	N71-20791 *	US-PATENT-APPL-SN-493179	c 09	N71-23443 *	US-PATENT-APPL-SN-509460	c 01	N71-13411 *
US-PATENT-APPL-SN-472643	c 33	N79-21265 *	US-PATENT-APPL-SN-491059	c 09	N71-23015 *	US-PATENT-APPL-SN-510136	c 18	N84-33450 *
US-PATENT-APPL-SN-472747	c 31	N71-16081 *	US-PATENT-APPL-SN-491113	c 35	N86-19581 *	US-PATENT-APPL-SN-510137	c 37	N85-34401 *
US-PATENT-APPL-SN-472775	c 35	N75-33369 *	US-PATENT-APPL-SN-491125	c 27	N84-22750 *	US-PATENT-APPL-SN-510150	c 10	N71-26103 *
US-PATENT-APPL-SN-473498	c 20	N85-21256 *	US-PATENT-APPL-SN-491416	c 35	N75-33368 *	US-PATENT-APPL-SN-510155	c 06	N71-11235 *
US-PATENT-APPL-SN-473499	c 74	N86-21348 *	US-PATENT-APPL-SN-491417	c 37	N76-19437 *	US-PATENT-APPL-SN-510474	c 15	N71-23810 *
US-PATENT-APPL-SN-473535	c 31	N71-15637 *	US-PATENT-APPL-SN-491418	c 31	N76-31365 *	US-PATENT-APPL-SN-510475	c 14	N71-23087 *
US-PATENT-APPL-SN-473537	c 08	N71-15908 *	US-PATENT-APPL-SN-491419	c 32	N76-15330 *	US-PATENT-APPL-SN-510677	c 44	N77-19571 *
US-PATENT-APPL-SN-473827	c 35	N86-32698 *	US-PATENT-APPL-SN-491845	c 28	N71-15659 *	US-PATENT-APPL-SN-511299	c 15	N71-22798 *
US-PATENT-APPL-SN-473973	c 02	N77-10001 *	US-PATENT-APPL-SN-492282	c 27	N85-20124 *	US-PATENT-APPL-SN-511334	c 36	N77-32478 *
US-PATENT-APPL-SN-47440	c 07	N73-20174 *	US-PATENT-APPL-SN-492344	c 05	N71-22896 *	US-PATENT-APPL-SN-511346	c 15	N77-10113 *
US-PATENT-APPL-SN-47441	c 09	N70-34559 * #	US-PATENT-APPL-SN-492964	c 25	N85-21280 *	US-PATENT-APPL-SN-511362	c 33	N85-29147 *
US-PATENT-APPL-SN-47443	c 09	N72-17152 *	US-PATENT-APPL-SN-493179	c 23	N85-35227 *	US-PATENT-APPL-SN-511363	c 25	N88-23846 *
US-PATENT-APPL-SN-474531	c 31	N71-23009 *	US-PATENT-APPL-SN-493359	c 20	N76-21275 *	US-PATENT-APPL-SN-51114	c 06	N72-25150 *
US-PATENT-APPL-SN-474744	c 35	N76-14431 *	US-PATENT-APPL-SN-493363	c 33	N76-21390 *	US-PATENT-APPL-SN-511564	c 09	N69-39885 * #
US-PATENT-APPL-SN-474745	c 37	N76-14463 *	US-PATENT-APPL-SN-493865	c 24	N86-19380 *	US-PATENT-APPL-SN-511567	c 05	N71-12336 *
US-PATENT-APPL-SN-474815	c 33	N79-21264 *	US-PATENT-APPL-SN-493866	c 71	N84-28568 *	US-PATENT-APPL-SN-511887	c 35	N76-15436 *
US-PATENT-APPL-SN-475299	c 31	N71-17679 *	US-PATENT-APPL-SN-493942	c 14	N71-17659 *	US-PATENT-APPL-SN-511894	c 03	N76-32140 *
US-PATENT-APPL-SN-475336	c 54	N75-27758 *	US-PATENT-APPL-SN-493943	c 15	N71-21529 *	US-PATENT-APPL-SN-512352	c 15	N70-33330 *
US-PATENT-APPL-SN-475337	c 51	N76-29891 *	US-PATENT-APPL-SN-494280	c 28	N71-23081 *	US-PATENT-APPL-SN-512509	c 26	N75-27125 *
US-PATENT-APPL-SN-475338	c 35	N76-15431 *	US-PATENT-APPL-SN-494282	c 15	N69-39735 * #	US-PATENT-APPL-SN-512559	c 23	N71-22881 *
US-PATENT-APPL-SN-476244	c 33	N84-22885 *	US-PATENT-APPL-SN-494283	c 31	N71-24035 *	US-PATENT-APPL-SN-512561	c 16	N71-25914 *
US-PATENT-APPL-SN-476759	c 03	N70-42073 *	US-PATENT-APPL-SN-494287	c 03	N71-22974 *	US-PATENT-APPL-SN-512562	c 16	N71-24074 *
US-PATENT-APPL-SN-476761	c 11	N71-10748 *	US-PATENT-APPL-SN-494739	c 07	N71-26291 *	US-PATENT-APPL-SN-512795		

US-PATENT-APPL-SN-513389	c 25	N75-12087 *	US-PATENT-APPL-SN-527790	c 33	N76-14372 *	US-PATENT-APPL-SN-545283	c 32	N77-12239 *
US-PATENT-APPL-SN-513576	c 35	N76-29552 *	US-PATENT-APPL-SN-527914	c 27	N86-21675 *	US-PATENT-APPL-SN-545284	c 34	N76-27517 *
US-PATENT-APPL-SN-513611	c 24	N76-22309 *	US-PATENT-APPL-SN-527918	c 09	N85-21178 *	US-PATENT-APPL-SN-54540	c 15	N72-29488 *
US-PATENT-APPL-SN-513611	c 24	N80-33482 *	US-PATENT-APPL-SN-528031	c 10	N69-39888 *	US-PATENT-APPL-SN-54540	c 37	N74-15125 *
US-PATENT-APPL-SN-513612	c 05	N77-17029 *	US-PATENT-APPL-SN-528593	c 27	N71-21819 *	US-PATENT-APPL-SN-54552	c 27	N70-34783 *
US-PATENT-APPL-SN-513613	c 27	N78-15276 *	US-PATENT-APPL-SN-529594	c 15	N69-27483 *	US-PATENT-APPL-SN-54552	c 20	N77-17143 *
US-PATENT-APPL-SN-513690	c 37	N76-20480 *	US-PATENT-APPL-SN-529594	c 33	N71-29152 *	US-PATENT-APPL-SN-545535	c 03	N69-21539 *
US-PATENT-APPL-SN-514117	c 27	N86-19455 *	US-PATENT-APPL-SN-529609	c 09	N69-39986 *	US-PATENT-APPL-SN-545793	c 20	N80-14188 *
US-PATENT-APPL-SN-514407	c 18	N71-22894 *	US-PATENT-APPL-SN-529803	c 33	N86-20668 *	US-PATENT-APPL-SN-545805	c 15	N71-21744 *
US-PATENT-APPL-SN-514546	c 74	N76-20958 *	US-PATENT-APPL-SN-529884	c 54	N78-18761 *	US-PATENT-APPL-SN-546142	c 09	N69-24329 *
US-PATENT-APPL-SN-51473	c 02	N70-33266 *	US-PATENT-APPL-SN-530185	c 32	N86-20647 *	US-PATENT-APPL-SN-546148	c 11	N71-22875 *
US-PATENT-APPL-SN-51477	c 14	N72-25412 *	US-PATENT-APPL-SN-530339	c 31	N86-19479 *	US-PATENT-APPL-SN-546149	c 16	N71-24170 *
US-PATENT-APPL-SN-515484	c 14	N71-22993 *	US-PATENT-APPL-SN-530958	c 09	N71-22985 *	US-PATENT-APPL-SN-547072	c 15	N71-24043 *
US-PATENT-APPL-SN-515687	c 27	N85-20125 *	US-PATENT-APPL-SN-531565	c 36	N76-24553 *	US-PATENT-APPL-SN-547072	c 35	N78-32397 *
US-PATENT-APPL-SN-516150	c 05	N71-19440 *	US-PATENT-APPL-SN-531566	c 10	N71-28860 *	US-PATENT-APPL-SN-547175	c 76	N84-12968 *
US-PATENT-APPL-SN-516151	c 15	N70-41679 *	US-PATENT-APPL-SN-531572	c 66	N76-19888 *	US-PATENT-APPL-SN-547176	c 37	N85-29286 *
US-PATENT-APPL-SN-516152	c 14	N71-23225 *	US-PATENT-APPL-SN-531575	c 32	N76-31372 *	US-PATENT-APPL-SN-547643	c 33	N79-33392 *
US-PATENT-APPL-SN-516153	c 10	N71-28783 *	US-PATENT-APPL-SN-531642	c 25	N71-21693 *	US-PATENT-APPL-SN-547677	c 10	N71-20448 *
US-PATENT-APPL-SN-516154	c 09	N69-24330 *	US-PATENT-APPL-SN-531647	c 04	N76-20114 *	US-PATENT-APPL-SN-548468	c 37	N76-27567 *
US-PATENT-APPL-SN-516155	c 09	N71-23270 *	US-PATENT-APPL-SN-531647	c 04	N77-19056 *	US-PATENT-APPL-SN-548559	c 44	N76-29700 *
US-PATENT-APPL-SN-516158	c 09	N71-19479 *	US-PATENT-APPL-SN-532006	c 23	N71-24857 *	US-PATENT-APPL-SN-548582	c 39	N86-20841 *
US-PATENT-APPL-SN-516159	c 14	N70-41812 *	US-PATENT-APPL-SN-532342	c 08	N85-35200 *	US-PATENT-APPL-SN-548583	c 27	N85-34282 *
US-PATENT-APPL-SN-516160	c 33	N71-16277 *	US-PATENT-APPL-SN-532784	c 27	N75-29263 *	US-PATENT-APPL-SN-548584	c 24	N84-34571 *
US-PATENT-APPL-SN-516162	c 07	N71-28900 *	US-PATENT-APPL-SN-532784	c 27	N78-17205 *	US-PATENT-APPL-SN-548808	c 14	N71-23227 *
US-PATENT-APPL-SN-516217	c 27	N85-21350 *	US-PATENT-APPL-SN-533555	c 36	N76-18428 *	US-PATENT-APPL-SN-549418	c 36	N76-31512 *
US-PATENT-APPL-SN-516217	c 27	N85-21351 *	US-PATENT-APPL-SN-533556	c 36	N76-29575 *	US-PATENT-APPL-SN-549860	c 03	N71-19438 *
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US-PATENT-APPL-SN-516217	c 25	N85-30039 *	US-PATENT-APPL-SN-533659	c 14	N73-30390 *	US-PATENT-APPL-SN-551182	c 03	N71-23187 *
US-PATENT-APPL-SN-516793	c 16	N71-22895 *	US-PATENT-APPL-SN-533734	c 33	N77-10428 *	US-PATENT-APPL-SN-551184	c 37	N76-22541 *
US-PATENT-APPL-SN-516794	c 14	N70-42074 *	US-PATENT-APPL-SN-534265	c 32	N76-21365 *	US-PATENT-APPL-SN-551536	c 04	N86-27270 *
US-PATENT-APPL-SN-517100	c 28	N70-33241 *	US-PATENT-APPL-SN-534266	c 35	N76-24523 *	US-PATENT-APPL-SN-551694	c 31	N71-18611 *
US-PATENT-APPL-SN-517156	c 14	N71-23093 *	US-PATENT-APPL-SN-534295	c 15	N71-21076 *	US-PATENT-APPL-SN-551815	c 02	N71-11038 *
US-PATENT-APPL-SN-517157	c 15	N71-22722 *	US-PATENT-APPL-SN-534564	c 10	N71-22961 *	US-PATENT-APPL-SN-551846	c 03	N71-20492 *
US-PATENT-APPL-SN-517158	c 14	N71-23401 *	US-PATENT-APPL-SN-534901	c 14	N70-36807 *	US-PATENT-APPL-SN-551933	c 33	N71-14032 *
US-PATENT-APPL-SN-517159	c 15	N71-20740 *	US-PATENT-APPL-SN-534931	c 37	N80-14395 *	US-PATENT-APPL-SN-551961	c 15	N70-33376 *
US-PATENT-APPL-SN-517858	c 14	N71-21006 *	US-PATENT-APPL-SN-534966	c 15	N71-24042 *	US-PATENT-APPL-SN-552108	c 07	N79-14096 *
US-PATENT-APPL-SN-517869	c 15	N71-23050 *	US-PATENT-APPL-SN-534975	c 14	N71-24232 *	US-PATENT-APPL-SN-552344	c 09	N69-27463 *
US-PATENT-APPL-SN-517995	c 39	N76-31562 *	US-PATENT-APPL-SN-535169	c 54	N78-17678 *	US-PATENT-APPL-SN-552454	c 35	N76-24525 *
US-PATENT-APPL-SN-518487	c 05	N71-11190 *	US-PATENT-APPL-SN-535304	c 09	N71-28810 *	US-PATENT-APPL-SN-553339	c 27	N86-20560 *
US-PATENT-APPL-SN-518544	c 44	N76-24696 *	US-PATENT-APPL-SN-535410	c 37	N76-15457 *	US-PATENT-APPL-SN-553339	c 27	N87-22845 *
US-PATENT-APPL-SN-518545	c 19	N76-22284 *	US-PATENT-APPL-SN-536210	c 17	N71-24830 *	US-PATENT-APPL-SN-553333	c 10	N73-16206 *
US-PATENT-APPL-SN-518546	c 26	N76-18257 *	US-PATENT-APPL-SN-536216	c 10	N71-23315 *	US-PATENT-APPL-SN-553687	c 44	N76-29704 *
US-PATENT-APPL-SN-518684	c 44	N76-22657 *	US-PATENT-APPL-SN-536217	c 10	N71-23544 *	US-PATENT-APPL-SN-553891	c 23	N71-16341 *
US-PATENT-APPL-SN-518685	c 35	N76-14429 *	US-PATENT-APPL-SN-536535	c 33	N76-14371 *	US-PATENT-APPL-SN-554277	c 07	N71-26579 *
US-PATENT-APPL-SN-519160	c 18	N71-20742 *	US-PATENT-APPL-SN-536761	c 33	N76-19338 *	US-PATENT-APPL-SN-554897	c 15	N71-22932 *
US-PATENT-APPL-SN-519161	c 05	N71-20718 *	US-PATENT-APPL-SN-536762	c 37	N76-22540 *	US-PATENT-APPL-SN-554899	c 15	N70-33382 *
US-PATENT-APPL-SN-519395	c 09	N69-24317 *	US-PATENT-APPL-SN-536785	c 33	N76-31409 *	US-PATENT-APPL-SN-554949	c 06	N71-20717 *
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US-PATENT-APPL-SN-520839	c 10	N71-19472 *	US-PATENT-APPL-SN-537024	c 44	N76-27664 *	US-PATENT-APPL-SN-554959	c 27	N79-21191 *
US-PATENT-APPL-SN-521006	c 34	N77-10463 *	US-PATENT-APPL-SN-537480	c 45	N76-31714 *	US-PATENT-APPL-SN-555189	c 08	N71-27255 *
US-PATENT-APPL-SN-521601	c 60	N76-14818 *	US-PATENT-APPL-SN-537614	c 33	N86-20672 *	US-PATENT-APPL-SN-555336	c 33	N76-27473 *
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US-PATENT-APPL-SN-521754	c 07	N71-22984 *	US-PATENT-APPL-SN-537757	c 37	N86-20789 *	US-PATENT-APPL-SN-555641	c 51	N76-29891 *
US-PATENT-APPL-SN-521755	c 28	N71-28849 *	US-PATENT-APPL-SN-537979	c 37	N77-11397 *	US-PATENT-APPL-SN-555750	c 27	N79-12221 *
US-PATENT-APPL-SN-521816	c 35	N77-19385 *	US-PATENT-APPL-SN-538047	c 37	N76-27568 *	US-PATENT-APPL-SN-556481	c 74	N86-26190 *
US-PATENT-APPL-SN-521817	c 45	N76-21742 *	US-PATENT-APPL-SN-538063	c 37	N86-19603 *	US-PATENT-APPL-SN-556512	c 37	N86-25789 *
US-PATENT-APPL-SN-521994	c 17	N71-23365 *	US-PATENT-APPL-SN-538166	c 15	N71-21177 *	US-PATENT-APPL-SN-556513	c 33	N85-29143 *
US-PATENT-APPL-SN-521996	c 15	N69-27871 *	US-PATENT-APPL-SN-538168	c 23	N71-16098 *	US-PATENT-APPL-SN-556514	c 35	N86-25753 *
US-PATENT-APPL-SN-521998	c 07	N69-24323 *	US-PATENT-APPL-SN-538863	c 54	N78-17680 *	US-PATENT-APPL-SN-556784	c 09	N71-20447 *
US-PATENT-APPL-SN-521999	c 12	N71-20815 *	US-PATENT-APPL-SN-538905	c 08	N71-18594 *	US-PATENT-APPL-SN-556830	c 15	N71-26294 *
US-PATENT-APPL-SN-522109	c 07	N78-17056 *	US-PATENT-APPL-SN-538907	c 33	N71-28903 *	US-PATENT-APPL-SN-557016	c 15	N71-23086 *
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US-PATENT-APPL-SN-522552	c 35	N76-16390 *	US-PATENT-APPL-SN-538911	c 33	N71-22792 *	US-PATENT-APPL-SN-557448	c 45	N76-17656 *
US-PATENT-APPL-SN-522556	c 35	N76-15432 *	US-PATENT-APPL-SN-538913	c 14	N71-17627 *	US-PATENT-APPL-SN-557565	c 24	N77-27187 *
US-PATENT-APPL-SN-5226628	c 08	N85-19985 *	US-PATENT-APPL-SN-538982	c 33	N77-14333 *	US-PATENT-APPL-SN-557584	c 09	N71-20851 *
US-PATENT-APPL-SN-522794	c 09	N71-23190 *	US-PATENT-APPL-SN-538983	c 33	N76-18353 *	US-PATENT-APPL-SN-557861	c 03	N71-24605 *
US-PATENT-APPL-SN-522795	c 20	N71-16281 *	US-PATENT-APPL-SN-539230	c 37	N85-30335 *	US-PATENT-APPL-SN-557868	c 14	N70-41682 *
US-PATENT-APPL-SN-522971	c 54	N76-24900 *	US-PATENT-APPL-SN-539237	c 33	N71-16278 *	US-PATENT-APPL-SN-557871	c 10	N71-21483 *
US-PATENT-APPL-SN-523297	c 24	N85-21266 *	US-PATENT-APPL-SN-539255	c 18	N71-26153 *	US-PATENT-APPL-SN-55806	c 06	N72-31140 *
US-PATENT-APPL-SN-523297	c 24	N85-35233 *	US-PATENT-APPL-SN-539255	c 17	N72-28536 *	US-PATENT-APPL-SN-558600	c 74	N77-10899 *
US-PATENT-APPL-SN-523511	c 28	N71-20942 *	US-PATENT-APPL-SN-540414	c 15	N71-22799 *	US-PATENT-APPL-SN-559055	c 33	N71-29046 *
US-PATENT-APPL-SN-523559	c 74	N85-29750 *	US-PATENT-APPL-SN-540779	c 33	N79-12331 *	US-PATENT-APPL-SN-559349	c 33	N71-24145 *
US-PATENT-APPL-SN-523560	c 60	N86-21154 *	US-PATENT-APPL-SN-541399	c 14	N71-20428 *	US-PATENT-APPL-SN-559350	c 33	N71-28892 *
US-PATENT-APPL-SN-523632	c 33	N78-17293 *	US-PATENT-APPL-SN-541526	c 33	N87-14594 *	US-PATENT-APPL-SN-559351	c 14	N69-39785 *
US-PATENT-APPL-SN-523991	c 35	N86-20751 *	US-PATENT-APPL-SN-542157	c 20	N76-21276 *	US-PATENT-APPL-SN-559845	c 35	N76-29551 *
US-PATENT-APPL-SN-524746	c 14	N73-28491 *	US-PATENT-APPL-SN-542192	c 26	N75-27126 *	US-PATENT-APPL-SN-559846	c 34	N79-13289 *
US-PATENT-APPL-SN-526438	c 25	N76-22323 *	US-PATENT-APPL-SN-542232	c 33	N86-19516 *	US-PATENT-APPL-SN-559846	c 34	N80-24573 *
US-PATENT-APPL-SN-526448	c 44	N76-14602 *	US-PATENT-APPL-SN-542557	c 44	N85-30474 *	US-PATENT-APPL-SN-559847	c 34	N79-13288 *
US-PATENT-APPL-SN-526449	c 54	N76-14804 *	US-PATENT-APPL-SN-54270	c 07	N72-25173 *	US-PATENT-APPL-SN-559898	c 71	N85-29693 *
US-PATENT-APPL-SN-526450	c 35	N77-14409 *	US-PATENT-APPL-SN-542713	c 23	N71-23976 *	US-PATENT-APPL-SN-560035	c 24	N85-30027 *
US-PATENT-APPL-SN-526631	c 10	N71-19471 *	US-PATENT-APPL-SN-54271	c 02	N73-19004 *	US-PATENT-APPL-SN-560891	c 73	N78-19920 *
US-PATENT-APPL-SN-526664	c 07	N69-24334 *	US-PATENT-APPL-SN-542754	c 34	N76-18374 *	US-PATENT-APPL-SN-560967	c 15	N69-21922 *
US-PATENT-APPL-SN-526665	c 14	N69-24331 *	US-PATENT-APPL-SN-543206	c 05	N71-23159 *	US-PATENT-APPL-SN-560968	c 10	N71-24863 *
US-PATENT-APPL-SN-526739	c 37	N87-23970 *	US-PATENT-APPL-SN-543774	c 06	N69-39733 *	US-PATENT-APPL-SN-560969	c 14	N71-15622 *
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US-PATENT-APPL-SN-526750	c 71	N85-22105 *	US-PATENT-APPL-SN-544895	c 07	N71-28809 *	US-PATENT-APPL-SN-561223	c 14	N71-20427 *
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US-PATENT-APPL-SN-526770	c 35	N85-21598 *	US-PATENT-APPL-SN-545223	c 03	N71-11056 *	US-PATENT-APPL-SN-561429	c 27	N85-21351 *
US-PATENT-APPL-SN-527331	c 17	N73-28573 *	US-PATENT-APPL-SN-545224	c 15	N69-21362 *	US-PATENT-APPL-SN-561431	c 27	N85-21350 *
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US-PATENT-APPL-SN-561435	c 27	N85-21352 *	US-PATENT-APPL-SN-577546	c 31	N71-23008 *	US-PATENT-APPL-SN-591569	c 37	N77-12402 *
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US-PATENT-APPL-SN-562444	c 14	N71-22995 *	US-PATENT-APPL-SN-577775	c 14	N71-17574 *	US-PATENT-APPL-SN-592694	c 05	N71-12342 *
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US-PATENT-APPL-SN-562499	c 32	N77-31350 *	US-PATENT-APPL-SN-578240	c 34	N77-18832 *	US-PATENT-APPL-SN-593593	c 06	N71-11239 *
US-PATENT-APPL-SN-562558	c 31	N79-21227 *	US-PATENT-APPL-SN-578241	c 52	N76-29896 *	US-PATENT-APPL-SN-593594	c 06	N71-11236 *
US-PATENT-APPL-SN-562933	c 10	N71-24799 *	US-PATENT-APPL-SN-578387	c 06	N87-22678 *	US-PATENT-APPL-SN-593595	c 06	N71-24740 *
US-PATENT-APPL-SN-562934	c 09	N69-21468 * #	US-PATENT-APPL-SN-578388	c 06	N86-27280 *	US-PATENT-APPL-SN-593604	c 11	N69-27466 * #
US-PATENT-APPL-SN-562992	c 27	N78-32261 *	US-PATENT-APPL-SN-578390	c 44	N85-30475 *	US-PATENT-APPL-SN-593605	c 06	N71-11242 *
US-PATENT-APPL-SN-563049	c 17	N76-29347 *	US-PATENT-APPL-SN-578397	c 20	N79-21124 *	US-PATENT-APPL-SN-593606	c 06	N71-11243 *
US-PATENT-APPL-SN-563050	c 37	N76-31524 *	US-PATENT-APPL-SN-578700	c 43	N82-13465 *	US-PATENT-APPL-SN-593607	c 07	N71-26102 *
US-PATENT-APPL-SN-563283	c 35	N76-18401 *	US-PATENT-APPL-SN-578916	c 14	N71-23036 *	US-PATENT-APPL-SN-594134	c 74	N86-20125 *
US-PATENT-APPL-SN-563644	c 15	N71-18613 *	US-PATENT-APPL-SN-578923	c 15	N71-21403 *	US-PATENT-APPL-SN-594584	c 14	N71-25892 *
US-PATENT-APPL-SN-563646	c 05	N71-23096 *	US-PATENT-APPL-SN-578925	c 23	N71-16355 *	US-PATENT-APPL-SN-594587	c 28	N71-21493 *
US-PATENT-APPL-SN-563648	c 15	N71-17803 *	US-PATENT-APPL-SN-578926	c 06	N69-39936 * #	US-PATENT-APPL-SN-594633	c 15	N71-24046 *
US-PATENT-APPL-SN-563650	c 25	N69-21929 * #	US-PATENT-APPL-SN-578928	c 26	N71-21824 *	US-PATENT-APPL-SN-595197	c 33	N77-10429 *
US-PATENT-APPL-SN-563651	c 28	N71-23293 *	US-PATENT-APPL-SN-578931	c 23	N71-21882 *	US-PATENT-APPL-SN-595254	c 17	N78-17140 *
US-PATENT-APPL-SN-563890	c 35	N85-34373 *	US-PATENT-APPL-SN-578932	c 08	N71-12505 *	US-PATENT-APPL-SN-595745	c 37	N77-32501 *
US-PATENT-APPL-SN-564622	c 37	N77-31497 *	US-PATENT-APPL-SN-579121	c 15	N71-29136 *	US-PATENT-APPL-SN-595747	c 37	N77-32500 *
US-PATENT-APPL-SN-564919	c 09	N71-23316 *	US-PATENT-APPL-SN-579300	c 20	N79-21123 *	US-PATENT-APPL-SN-596338	c 09	N71-20816 *
US-PATENT-APPL-SN-565162	c 35	N79-14348 *	US-PATENT-APPL-SN-579375	c 07	N77-14025 *	US-PATENT-APPL-SN-596641	c 07	N77-23106 *
US-PATENT-APPL-SN-565289	c 38	N77-17495 *	US-PATENT-APPL-SN-579376	c 20	N79-21125 *	US-PATENT-APPL-SN-596641	c 37	N78-10467 *
US-PATENT-APPL-SN-565290	c 17	N76-22245 *	US-PATENT-APPL-SN-579989	c 34	N77-32413 *	US-PATENT-APPL-SN-596733	c 15	N72-11389 *
US-PATENT-APPL-SN-565481	c 09	N86-32447 *	US-PATENT-APPL-SN-580037	c 15	N71-23255 *	US-PATENT-APPL-SN-596735	c 32	N71-24285 *
US-PATENT-APPL-SN-566392	c 14	N71-23175 *	US-PATENT-APPL-SN-580039	c 37	N87-21333 *	US-PATENT-APPL-SN-596787	c 37	N77-19458 *
US-PATENT-APPL-SN-566397	c 05	N71-23161 *	US-PATENT-APPL-SN-580419	c 34	N85-33433 *	US-PATENT-APPL-SN-596787	c 37	N78-31426 *
US-PATENT-APPL-SN-566493	c 44	N76-29701 *	US-PATENT-APPL-SN-580573	c 44	N85-34441 *	US-PATENT-APPL-SN-596788	c 33	N78-21390 *
US-PATENT-APPL-SN-566494	c 32	N77-30309 *	US-PATENT-APPL-SN-580574	c 18	N84-22610 * #	US-PATENT-APPL-SN-596905	c 24	N77-19170 *
US-PATENT-APPL-SN-566495	c 33	N77-17351 *	US-PATENT-APPL-SN-58147	c 28	N70-33356 *	US-PATENT-APPL-SN-596959	c 18	N84-22609 * #
US-PATENT-APPL-SN-566717	c 14	N71-24233 *	US-PATENT-APPL-SN-581514	c 70	N75-26789 * #	US-PATENT-APPL-SN-596959	c 18	N86-20469 *
US-PATENT-APPL-SN-567686	c 15	N71-22994 *	US-PATENT-APPL-SN-581750	c 07	N78-17055 *	US-PATENT-APPL-SN-596960	c 37	N85-33490 *
US-PATENT-APPL-SN-567806	c 06	N71-22975 *	US-PATENT-APPL-SN-581751	c 37	N78-10468 *	US-PATENT-APPL-SN-597430	c 44	N81-29525 *
US-PATENT-APPL-SN-56791	c 10	N72-16172 *	US-PATENT-APPL-SN-581843	c 31	N79-21226 *	US-PATENT-APPL-SN-597430	c 44	N82-28780 *
US-PATENT-APPL-SN-568067	c 31	N71-22968 *	US-PATENT-APPL-SN-582171	c 32	N71-16428 *	US-PATENT-APPL-SN-598118	c 15	N69-27490 * #
US-PATENT-APPL-SN-568071	c 14	N69-27461 * #	US-PATENT-APPL-SN-582213	c 32	N74-20906 *	US-PATENT-APPL-SN-598119	c 08	N71-19437 *
US-PATENT-APPL-SN-568160	c 10	N71-18724 *	US-PATENT-APPL-SN-582318	c 33	N76-27472 *	US-PATENT-APPL-SN-598120	c 08	N71-18602 *
US-PATENT-APPL-SN-568346	c 04	N69-27487 * #	US-PATENT-APPL-SN-582492	c 52	N85-30618 *	US-PATENT-APPL-SN-598504	c 37	N77-14477 *
US-PATENT-APPL-SN-568352	c 09	N71-20842 *	US-PATENT-APPL-SN-582494	c 36	N84-25037 * #	US-PATENT-APPL-SN-598777	c 27	N85-34281 *
US-PATENT-APPL-SN-568354	c 14	N71-22752 *	US-PATENT-APPL-SN-582495	c 44	N86-27706 *	US-PATENT-APPL-SN-598982	c 06	N73-30097 *
US-PATENT-APPL-SN-568355	c 32	N71-23971 *	US-PATENT-APPL-SN-582609	c 10	N71-19467 *	US-PATENT-APPL-SN-598982	c 15	N74-27360 *
US-PATENT-APPL-SN-568356	c 14	N71-15599 *	US-PATENT-APPL-SN-582643	c 35	N85-34374 *	US-PATENT-APPL-SN-598993	c 15	N72-25456 *
US-PATENT-APPL-SN-568362	c 03	N69-39983 * #	US-PATENT-APPL-SN-583055	c 07	N78-18067 *	US-PATENT-APPL-SN-598994	c 23	N73-13662 *
US-PATENT-APPL-SN-568364	c 10	N71-26418 *	US-PATENT-APPL-SN-583056	c 37	N78-17384 *	US-PATENT-APPL-SN-598995	c 15	N72-20445 *
US-PATENT-APPL-SN-568541	c 24	N77-28225 *	US-PATENT-APPL-SN-583219	c 43	N82-13465 *	US-PATENT-APPL-SN-598967	c 31	N77-10229 *
US-PATENT-APPL-SN-568541	c 27	N81-14077 *	US-PATENT-APPL-SN-583485	c 33	N77-28385 *	US-PATENT-APPL-SN-598968	c 33	N77-17354 *
US-PATENT-APPL-SN-568620	c 10	N71-26626 *	US-PATENT-APPL-SN-583486	c 33	N77-26386 *	US-PATENT-APPL-SN-598969	c 44	N78-17460 *
US-PATENT-APPL-SN-568987	c 10	N71-19547 *	US-PATENT-APPL-SN-583487	c 52	N76-19785 *	US-PATENT-APPL-SN-599126	c 23	N88-24692 *
US-PATENT-APPL-SN-569370	c 43	N84-23012 * #	US-PATENT-APPL-SN-584015	c 14	N71-26475 *	US-PATENT-APPL-SN-599284	c 35	N77-14411 *
US-PATENT-APPL-SN-569372	c 76	N85-33826 *	US-PATENT-APPL-SN-584066	c 10	N71-20852 *	US-PATENT-APPL-SN-599556	c 14	N72-27411 *
US-PATENT-APPL-SN-569925	c 07	N77-17059 *	US-PATENT-APPL-SN-584067	c 07	N71-12392 *	US-PATENT-APPL-SN-59966	c 21	N72-25595 *
US-PATENT-APPL-SN-570093	c 06	N71-17705 *	US-PATENT-APPL-SN-584070	c 09	N69-27500 * #	US-PATENT-APPL-SN-59968	c 15	N72-27484 *
US-PATENT-APPL-SN-570095	c 14	N71-23226 *	US-PATENT-APPL-SN-584071	c 26	N71-16037 *	US-PATENT-APPL-SN-59969	c 09	N72-25249 *
US-PATENT-APPL-SN-570097	c 15	N69-23185 * #	US-PATENT-APPL-SN-584072	c 15	N69-39786 * #	US-PATENT-APPL-SN-599775	c 08	N69-21928 * #
US-PATENT-APPL-SN-570678	c 17	N71-25903 *	US-PATENT-APPL-SN-584094	c 26	N77-20201 *	US-PATENT-APPL-SN-600266	c 14	N71-20430 *
US-PATENT-APPL-SN-571458	c 44	N77-10635 *	US-PATENT-APPL-SN-584914	c 54	N78-17679 *	US-PATENT-APPL-SN-600682	c 14	N71-20461 *
US-PATENT-APPL-SN-571459	c 54	N78-14784 *	US-PATENT-APPL-SN-585217	c 54	N78-17677 *	US-PATENT-APPL-SN-601130	c 31	N86-21718 *
US-PATENT-APPL-SN-571613	c 74	N86-20124 *	US-PATENT-APPL-SN-585420	c 35	N76-31489 *	US-PATENT-APPL-SN-601228	c 15	N71-17652 *
US-PATENT-APPL-SN-571614	c 35	N86-20750 *	US-PATENT-APPL-SN-585988	c 33	N75-29318 *	US-PATENT-APPL-SN-601229	c 14	N71-26474 *
US-PATENT-APPL-SN-571615	c 74	N87-14971 *	US-PATENT-APPL-SN-586324	c 05	N71-26293 *	US-PATENT-APPL-SN-602049	c 35	N86-32697 *
US-PATENT-APPL-SN-571616	c 25	N86-19413 *	US-PATENT-APPL-SN-586325	c 31	N71-24315 *	US-PATENT-APPL-SN-602617	c 37	N77-23483 *
US-PATENT-APPL-SN-571617	c 26	N85-35267 *	US-PATENT-APPL-SN-586329	c 05	N71-24623 *	US-PATENT-APPL-SN-602618	c 44	N76-31667 *
US-PATENT-APPL-SN-571821	c 20	N76-22296 *	US-PATENT-APPL-SN-586330	c 05	N71-12344 *	US-PATENT-APPL-SN-60276	c 22	N73-32528 *
US-PATENT-APPL-SN-57252	c 14	N72-25414 *	US-PATENT-APPL-SN-587749	c 60	N88-29310 *	US-PATENT-APPL-SN-602828	c 09	N71-13531 *
US-PATENT-APPL-SN-572523	c 18	N72-25541 *	US-PATENT-APPL-SN-587764	c 18	N86-24729 *	US-PATENT-APPL-SN-603374	c 37	N86-19606 *
US-PATENT-APPL-SN-572990	c 37	N78-16369 *	US-PATENT-APPL-SN-588036	c 18	N84-22612 * #	US-PATENT-APPL-SN-603396	c 14	N69-23191 * #
US-PATENT-APPL-SN-572991	c 51	N77-22794 *	US-PATENT-APPL-SN-588039	c 18	N87-14373 *	US-PATENT-APPL-SN-603397	c 26	N71-23292 *
US-PATENT-APPL-SN-573029	c 07	N79-14097 *	US-PATENT-APPL-SN-588164	c 31	N85-29082 *	US-PATENT-APPL-SN-604337	c 27	N85-29044 *
US-PATENT-APPL-SN-573162	c 37	N86-27630 *	US-PATENT-APPL-SN-588635	c 21	N71-15642 *	US-PATENT-APPL-SN-604374	c 44	N76-29699 *
US-PATENT-APPL-SN-573432	c 14	N71-23790 *	US-PATENT-APPL-SN-588651	c 31	N71-24813 *	US-PATENT-APPL-SN-605090	c 15	N71-19485 *
US-PATENT-APPL-SN-57399	c 03	N72-20034 *	US-PATENT-APPL-SN-588671	c 03	N71-23354 *	US-PATENT-APPL-SN-605091	c 15	N71-26346 *
US-PATENT-APPL-SN-574208	c 37	N76-29590 *	US-PATENT-APPL-SN-588721	c 27	N78-33228 *	US-PATENT-APPL-SN-605092	c 05	N71-23317 *
US-PATENT-APPL-SN-574218	c 52	N76-29895 *	US-PATENT-APPL-SN-589119	c 32	N77-32342 *	US-PATENT-APPL-SN-605093	c 17	N71-24911 *
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US-PATENT-APPL-SN-574280	c 15	N69-21460 * #	US-PATENT-APPL-SN-589173	c 32	N77-12240 *	US-PATENT-APPL-SN-605095	c 10	N71-19417 *
US-PATENT-APPL-SN-574282	c 15	N69-23190 * #	US-PATENT-APPL-SN-589233	c 33	N77-14335 *	US-PATENT-APPL-SN-605096	c 15	N71-24834 *
US-PATENT-APPL-SN-574282	c 15	N71-23025 *	US-PATENT-APPL-SN-590141	c 03	N69-24267 * #	US-PATENT-APPL-SN-605097	c 14	N69-21923 * #
US-PATENT-APPL-SN-574283	c 14	N69-24257 * #	US-PATENT-APPL-SN-590144	c 15	N71-15606 *	US-PATENT-APPL-SN-605098	c 09	N71-26092 *
US-PATENT-APPL-SN-574284	c 08	N71-19763 *	US-PATENT-APPL-SN-590145	c 07	N69-39980 * #	US-PATENT-APPL-SN-605099	c 09	N71-23548 *
US-PATENT-APPL-SN-574290	c 14	N71-20439 *	US-PATENT-APPL-SN-590146	c 09	N69-21926 * #	US-PATENT-APPL-SN-605100	c 15	N71-21536 *
US-PATENT-APPL-SN-575291	c 33	N71-29151 *	US-PATENT-APPL-SN-590147	c 15	N71-21419 *	US-PATENT-APPL-SN-605102	c 09	N69-39987 * #
US-PATENT-APPL-SN-575475	c 05	N69-23192 * #	US-PATENT-APPL-SN-590158	c 05	N71-24147 *	US-PATENT-APPL-SN-60531	c 28	N70-37980 *
US-PATENT-APPL-SN-575930	c 06	N71-23230 *	US-PATENT-APPL-SN-590159	c 09	N69-24324 * #	US-PATENT-APPL-SN-60536	c 02	N70-38009 *
US-PATENT-APPL-SN-576182	c 33	N71-24276 *	US-PATENT-APPL-SN-590182	c 37	N76-29588 *	US-PATENT-APPL-SN-605518	c 15	N71-23023 *
US-PATENT-APPL-SN-576183	c 09	N71-23525 *	US-PATENT-APPL-SN-590183	c 74	N79-13855 *	US-PATENT-APPL-SN-605964	c 06	N73-30103 *
US-PATENT-APPL-SN-576195	c 14	N71-21079 *	US-PATENT-APPL-SN-590921	c 71	N86-21276 *	US-PATENT-APPL-SN-605994	c 06	N73-30101 *
US-PATENT-APPL-SN-576308	c 07	N85-35194 *	US-PATENT-APPL-SN-590923	c 35	N85-34375 *	US-PATENT-APPL-SN-606027	c 06	N73-30099 *
US-PATENT-APPL-SN-576488	c 44	N76-28635 *	US-PATENT-APPL-SN-590925	c 26	N86-32550 *	US-PATENT-APPL-SN-606036	c 06	N73-30100 *
US-PATENT-APPL-SN-576521	c 09	N71-20864 *	US-PATENT-APPL-SN-590975	c 44	N78-31525 *	US-PATENT-APPL-SN-606426	c 74	N86-29650 * #
US-PATENT-APPL-SN-576774	c 60	N77-19760 *	US-PATENT-APPL-SN-591000	c 15	N71-24044 *	US-PATENT-APPL-SN-606431	c 37	N86-25791 *
US-PATENT-APPL-SN-576792	c 14	N71-26136 *	US-PATENT-APPL-SN-591004	c 07	N71-11266 *	US-PATENT-APPL-SN-606432	c 74	N87-21679 *
US-PATENT-APPL-SN-576797	c 09	N69-24318 * #	US-PATENT-APPL-SN-591007	c 16	N69-27491 * #	US-PATENT-APPL-SN-606462	c 08	N71-24891 *
US-PATENT-APPL-SN-57711	c 15	N69-						

US-PATENT-APPL-SN-607461	c 05	N71-12346 *	US-PATENT-APPL-SN-629456	c 37	N77-14479 *	US-PATENT-APPL-SN-641803	c 35	N78-18391 *
US-PATENT-APPL-SN-607484	c 09	N71-26002 *	US-PATENT-APPL-SN-629457	c 35	N77-32454 *	US-PATENT-APPL-SN-64224	c 17	N70-38490 *
US-PATENT-APPL-SN-607608	c 14	N69-27484 *	US-PATENT-APPL-SN-629458	c 35	N78-17357 *	US-PATENT-APPL-SN-64226	c 17	N70-38198 *
US-PATENT-APPL-SN-607699	c 09	N76-23273 *	US-PATENT-APPL-SN-629759	c 15	N71-16076 *	US-PATENT-APPL-SN-642310	c 44	N86-19721 *
US-PATENT-APPL-SN-608247	c 15	N71-20813 *	US-PATENT-APPL-SN-630579	c 35	N77-24454 *	US-PATENT-APPL-SN-642602	c 54	N86-29507 *
US-PATENT-APPL-SN-608482	c 74	N77-20882 *	US-PATENT-APPL-SN-630583	c 33	N77-24375 *	US-PATENT-APPL-SN-643041	c 44	N78-19599 *
US-PATENT-APPL-SN-608483	c 09	N77-19076 *	US-PATENT-APPL-SN-631341	c 60	N78-17691 *	US-PATENT-APPL-SN-643043	c 35	N78-13400 *
US-PATENT-APPL-SN-608741	c 23	N85-28973 *	US-PATENT-APPL-SN-631444	c 16	N72-28521 *	US-PATENT-APPL-SN-643332	c 15	N71-14932 *
US-PATENT-APPL-SN-60876	c 15	N72-27485 *	US-PATENT-APPL-SN-631848	c 09	N71-12514 *	US-PATENT-APPL-SN-643522	c 16	N86-26352 *
US-PATENT-APPL-SN-60881	c 32	N72-25877 *	US-PATENT-APPL-SN-63195	c 14	N72-27408 *	US-PATENT-APPL-SN-643524	c 27	N86-29039 *
US-PATENT-APPL-SN-60882	c 05	N73-32011 *	US-PATENT-APPL-SN-632104	c 09	N71-19470 *	US-PATENT-APPL-SN-643589	c 27	N86-31727 *
US-PATENT-APPL-SN-60883	c 10	N73-13235 *	US-PATENT-APPL-SN-632111	c 37	N79-10422 *	US-PATENT-APPL-SN-643897	c 73	N78-32848 *
US-PATENT-APPL-SN-608944	c 15	N71-23798 *	US-PATENT-APPL-SN-632112	c 35	N77-22449 *	US-PATENT-APPL-SN-64391	c 31	N72-25842 *
US-PATENT-APPL-SN-60950	c 04	N73-27052 *	US-PATENT-APPL-SN-632152	c 10	N71-24798 *	US-PATENT-APPL-SN-644444	c 09	N71-18721 *
US-PATENT-APPL-SN-610723	c 14	N71-23755 *	US-PATENT-APPL-SN-632154	c 09	N69-39984 *	US-PATENT-APPL-SN-644446	c 14	N71-24693 *
US-PATENT-APPL-SN-610724	c 31	N71-28851 *	US-PATENT-APPL-SN-632162	c 14	N69-39937 *	US-PATENT-APPL-SN-644447	c 14	N71-24234 *
US-PATENT-APPL-SN-610728	c 31	N71-22969 *	US-PATENT-APPL-SN-632163	c 30	N71-23723 *	US-PATENT-APPL-SN-644448	c 17	N69-25147 *
US-PATENT-APPL-SN-610801	c 76	N77-32919 *	US-PATENT-APPL-SN-632164	c 15	N69-24319 *	US-PATENT-APPL-SN-644799	c 17	N71-15468 *
US-PATENT-APPL-SN-610802	c 35	N77-20400 *	US-PATENT-APPL-SN-632165	c 14	N71-26266 *	US-PATENT-APPL-SN-645500	c 74	N77-28932 *
US-PATENT-APPL-SN-611414	c 46	N74-23068 *	US-PATENT-APPL-SN-633178	c 25	N84-32447 *	US-PATENT-APPL-SN-645502	c 24	N79-25143 *
US-PATENT-APPL-SN-611414	c 46	N74-23069 *	US-PATENT-APPL-SN-633179	c 34	N86-12547 *	US-PATENT-APPL-SN-645507	c 26	N77-32280 *
US-PATENT-APPL-SN-612265	c 14	N72-22442 *	US-PATENT-APPL-SN-633180	c 09	N84-32398 *	US-PATENT-APPL-SN-645508	c 44	N77-14580 *
US-PATENT-APPL-SN-612568	c 15	N71-28952 *	US-PATENT-APPL-SN-633363	c 25	N86-25428 *	US-PATENT-APPL-SN-645510	c 32	N77-30308 *
US-PATENT-APPL-SN-612740	c 25	N71-20563 *	US-PATENT-APPL-SN-633383	c 08	N72-20177 *	US-PATENT-APPL-SN-645563	c 31	N71-20396 *
US-PATENT-APPL-SN-612899	c 07	N77-18154 *	US-PATENT-APPL-SN-63384	c 05	N72-22093 *	US-PATENT-APPL-SN-645571	c 35	N77-14407 *
US-PATENT-APPL-SN-612964	c 20	N77-10148 *	US-PATENT-APPL-SN-633876	c 27	N78-19302 *	US-PATENT-APPL-SN-645573	c 24	N71-25555 *
US-PATENT-APPL-SN-612965	c 52	N77-14735 *	US-PATENT-APPL-SN-633877	c 27	N77-13217 *	US-PATENT-APPL-SN-645584	c 08	N71-12494 *
US-PATENT-APPL-SN-612966	c 35	N78-12390 *	US-PATENT-APPL-SN-634038	c 25	N71-16073 *	US-PATENT-APPL-SN-646044	c 37	N85-34403 *
US-PATENT-APPL-SN-612967	c 74	N77-18893 *	US-PATENT-APPL-SN-634040	c 15	N71-19489 *	US-PATENT-APPL-SN-646124	c 15	N71-23817 *
US-PATENT-APPL-SN-613004	c 71	N77-26919 *	US-PATENT-APPL-SN-634060	c 09	N69-39897 *	US-PATENT-APPL-SN-646333	c 35	N80-26635 *
US-PATENT-APPL-SN-613139	c 27	N86-27450 *	US-PATENT-APPL-SN-634205	c 35	N77-14406 *	US-PATENT-APPL-SN-646424	c 07	N69-27460 *
US-PATENT-APPL-SN-613140	c 33	N86-20669 *	US-PATENT-APPL-SN-634214	c 73	N78-28913 *	US-PATENT-APPL-SN-646704	c 36	N77-25499 *
US-PATENT-APPL-SN-613235	c 14	N73-30394 *	US-PATENT-APPL-SN-634304	c 27	N79-18052 *	US-PATENT-APPL-SN-646934	c 08	N71-18692 *
US-PATENT-APPL-SN-613299	c 31	N70-37986 *	US-PATENT-APPL-SN-635325	c 14	N69-27431 *	US-PATENT-APPL-SN-64709	c 10	N72-28620 *
US-PATENT-APPL-SN-613734	c 52	N77-14738 *	US-PATENT-APPL-SN-635326	c 14	N71-18482 *	US-PATENT-APPL-SN-64723	c 07	N72-25170 *
US-PATENT-APPL-SN-613979	c 33	N71-14035 *	US-PATENT-APPL-SN-635327	c 12	N69-39988 *	US-PATENT-APPL-SN-647298	c 31	N71-16102 *
US-PATENT-APPL-SN-615030	c 35	N78-19465 *	US-PATENT-APPL-SN-635328	c 09	N69-21467 *	US-PATENT-APPL-SN-648034	c 09	N79-21083 *
US-PATENT-APPL-SN-615033	c 15	N72-25453 *	US-PATENT-APPL-SN-635329	c 08	N72-25209 *	US-PATENT-APPL-SN-648700	c 74	N78-13874 *
US-PATENT-APPL-SN-615505	c 34	N85-29180 *	US-PATENT-APPL-SN-635519	c 35	N77-24455 *	US-PATENT-APPL-SN-649075	c 14	N71-15600 *
US-PATENT-APPL-SN-616002	c 34	N86-27593 *	US-PATENT-APPL-SN-635531	c 33	N77-14334 *	US-PATENT-APPL-SN-649076	c 08	N71-24890 *
US-PATENT-APPL-SN-616332	c 24	N77-27188 *	US-PATENT-APPL-SN-635597	c 15	N69-21465 *	US-PATENT-APPL-SN-649078	c 07	N71-19493 *
US-PATENT-APPL-SN-616333	c 33	N76-32457 *	US-PATENT-APPL-SN-635972	c 18	N71-23710 *	US-PATENT-APPL-SN-649327	c 33	N87-25531 *
US-PATENT-APPL-SN-616472	c 74	N77-22951 *	US-PATENT-APPL-SN-63610	c 06	N72-25147 *	US-PATENT-APPL-SN-649328	c 27	N86-19456 *
US-PATENT-APPL-SN-616528	c 24	N80-33482 *	US-PATENT-APPL-SN-636193	c 74	N78-15880 *	US-PATENT-APPL-SN-649329	c 05	N84-33400 *
US-PATENT-APPL-SN-617021	c 23	N71-16101 *	US-PATENT-APPL-SN-636459	c 44	N87-21410 *	US-PATENT-APPL-SN-649330	c 27	N86-19458 *
US-PATENT-APPL-SN-617022	c 07	N69-27462 *	US-PATENT-APPL-SN-636463	c 20	N87-16875 *	US-PATENT-APPL-SN-649356	c 09	N71-23189 *
US-PATENT-APPL-SN-617202	c 74	N77-28933 *	US-PATENT-APPL-SN-636465	c 37	N85-29284 *	US-PATENT-APPL-SN-649357	c 08	N71-12500 *
US-PATENT-APPL-SN-617612	c 52	N77-10780 *	US-PATENT-APPL-SN-636796	c 35	N78-17358 *	US-PATENT-APPL-SN-649358	c 07	N71-11267 *
US-PATENT-APPL-SN-617770	c 14	N71-23267 *	US-PATENT-APPL-SN-636878	c 14	N71-20442 *	US-PATENT-APPL-SN-649359	c 15	N71-18701 *
US-PATENT-APPL-SN-617774	c 18	N71-16124 *	US-PATENT-APPL-SN-637247	c 35	N77-10493 *	US-PATENT-APPL-SN-649360	c 23	N71-16365 *
US-PATENT-APPL-SN-617775	c 06	N71-28807 *	US-PATENT-APPL-SN-637249	c 38	N76-28563 *	US-PATENT-APPL-SN-650166	c 09	N71-23191 *
US-PATENT-APPL-SN-617776	c 18	N69-39895 *	US-PATENT-APPL-SN-637268	c 47	N77-10753 *	US-PATENT-APPL-SN-651002	c 08	N79-14108 *
US-PATENT-APPL-SN-617778	c 14	N71-26244 *	US-PATENT-APPL-SN-637269	c 52	N77-28717 *	US-PATENT-APPL-SN-651007	c 74	N78-17865 *
US-PATENT-APPL-SN-617779	c 09	N69-39929 *	US-PATENT-APPL-SN-637882	c 15	N71-17650 *	US-PATENT-APPL-SN-651009	c 26	N78-18182 *
US-PATENT-APPL-SN-617783	c 15	N69-24266 *	US-PATENT-APPL-SN-638192	c 10	N71-26415 *	US-PATENT-APPL-SN-651627	c 26	N72-25679 *
US-PATENT-APPL-SN-617871	c 27	N85-29043 *	US-PATENT-APPL-SN-638194	c 33	N71-21507 *	US-PATENT-APPL-SN-651972	c 27	N74-23125 *
US-PATENT-APPL-SN-617895	c 32	N77-14292 *	US-PATENT-APPL-SN-638554	c 33	N86-20671 *	US-PATENT-APPL-SN-652948	c 52	N77-14736 *
US-PATENT-APPL-SN-618594	c 37	N77-13418 *	US-PATENT-APPL-SN-638584	c 33	N86-20670 *	US-PATENT-APPL-SN-652979	c 45	N62-11634 *
US-PATENT-APPL-SN-61894	c 12	N72-21310 *	US-PATENT-APPL-SN-638586	c 32	N87-21207 *	US-PATENT-APPL-SN-653277	c 31	N71-23912 *
US-PATENT-APPL-SN-61895	c 07	N72-33146 *	US-PATENT-APPL-SN-638707	c 14	N69-27486 *	US-PATENT-APPL-SN-653278	c 14	N69-27503 *
US-PATENT-APPL-SN-618969	c 05	N71-26333 *	US-PATENT-APPL-SN-639589	c 28	N70-33372 *	US-PATENT-APPL-SN-653316	c 25	N77-32255 *
US-PATENT-APPL-SN-619519	c 32	N71-16106 *	US-PATENT-APPL-SN-640154	c 09	N71-18600 *	US-PATENT-APPL-SN-653422	c 35	N77-20401 *
US-PATENT-APPL-SN-619520	c 05	N69-21380 *	US-PATENT-APPL-SN-640447	c 15	N71-19486 *	US-PATENT-APPL-SN-653682	c 39	N78-10493 *
US-PATENT-APPL-SN-619521	c 06	N69-39889 *	US-PATENT-APPL-SN-640448	c 08	N71-19420 *	US-PATENT-APPL-SN-654787	c 07	N77-32148 *
US-PATENT-APPL-SN-619903	c 15	N69-27505 *	US-PATENT-APPL-SN-640449	c 09	N71-19516 *	US-PATENT-APPL-SN-655149	c 07	N77-23106 *
US-PATENT-APPL-SN-619907	c 09	N69-21543 *	US-PATENT-APPL-SN-640450	c 15	N71-17694 *	US-PATENT-APPL-SN-65548	c 18	N70-39897 *
US-PATENT-APPL-SN-619908	c 08	N71-20571 *	US-PATENT-APPL-SN-640452	c 09	N71-12513 *	US-PATENT-APPL-SN-655601	c 32	N86-27513 *
US-PATENT-APPL-SN-619986	c 37	N75-32465 *	US-PATENT-APPL-SN-640453	c 23	N71-16099 *	US-PATENT-APPL-SN-655605	c 52	N87-24874 *
US-PATENT-APPL-SN-620675	c 35	N78-19466 *	US-PATENT-APPL-SN-640454	c 06	N71-11238 *	US-PATENT-APPL-SN-655606	c 32	N89-14374 *
US-PATENT-APPL-SN-621098	c 09	N71-20446 *	US-PATENT-APPL-SN-640455	c 10	N71-23099 *	US-PATENT-APPL-SN-655675	c 17	N71-24142 *
US-PATENT-APPL-SN-621714	c 15	N71-19569 *	US-PATENT-APPL-SN-640456	c 03	N71-26726 *	US-PATENT-APPL-SN-655677	c 08	N71-19432 *
US-PATENT-APPL-SN-621715	c 05	N71-11207 *	US-PATENT-APPL-SN-640457	c 03	N71-11052 *	US-PATENT-APPL-SN-655724	c 15	N71-22706 *
US-PATENT-APPL-SN-621742	c 28	N71-23968 *	US-PATENT-APPL-SN-640458	c 15	N71-23811 *	US-PATENT-APPL-SN-656952	c 09	N71-12519 *
US-PATENT-APPL-SN-623156	c 04	N77-19056 *	US-PATENT-APPL-SN-640459	c 10	N71-18723 *	US-PATENT-APPL-SN-656953	c 14	N71-17585 *
US-PATENT-APPL-SN-623187	c 34	N77-19353 *	US-PATENT-APPL-SN-640460	c 14	N69-21541 *	US-PATENT-APPL-SN-656993	c 09	N71-24843 *
US-PATENT-APPL-SN-623188	c 54	N77-21844 *	US-PATENT-APPL-SN-640462	c 15	N71-20443 *	US-PATENT-APPL-SN-656995	c 21	N71-14132 *
US-PATENT-APPL-SN-623238	c 51	N77-25769 *	US-PATENT-APPL-SN-640712	c 24	N85-35233 *	US-PATENT-APPL-SN-657309	c 31	N86-29055 *
US-PATENT-APPL-SN-623389	c 31	N81-15154 *	US-PATENT-APPL-SN-640781	c 03	N69-25146 *	US-PATENT-APPL-SN-657310	c 35	N87-14670 *
US-PATENT-APPL-SN-623536	c 09	N78-18083 *	US-PATENT-APPL-SN-640783	c 09	N71-26000 *	US-PATENT-APPL-SN-657742	c 18	N71-26100 *
US-PATENT-APPL-SN-625077	c 44	N86-25874 *	US-PATENT-APPL-SN-640784	c 15	N69-39935 *	US-PATENT-APPL-SN-657903	c 07	N83-33884 *
US-PATENT-APPL-SN-625732	c 35	N77-18417 *	US-PATENT-APPL-SN-640785	c 09	N69-24333 *	US-PATENT-APPL-SN-657907	c 27	N78-17213 *
US-PATENT-APPL-SN-625733	c 26	N77-28265 *	US-PATENT-APPL-SN-640786	c 15	N71-24695 *	US-PATENT-APPL-SN-657995	c 35	N77-22450 *
US-PATENT-APPL-SN-625734	c 35	N78-10428 *	US-PATENT-APPL-SN-640787	c 28	N71-24321 *	US-PATENT-APPL-SN-657996	c 60	N78-10709 *
US-PATENT-APPL-SN-625759	c 37	N77-14478 *	US-PATENT-APPL-SN-640788	c 15	N69-27502 *	US-PATENT-APPL-SN-657997	c 60	N77-32731 *
US-PATENT-APPL-SN-625781	c 33	N77-31404 *	US-PATENT-APPL-SN-640789	c 15	N69-27504 *	US-PATENT-APPL-SN-657998	c 27	N78-32262 *
US-PATENT-APPL-SN-626376	c 05	N71-11189 *	US-PATENT-APPL-SN-641142	c 23	N86-32525 *	US-PATENT-APPL-SN-658132	c 44	N77-32580 *
US-PATENT-APPL-SN-626842	c 51	N77-27677 *	US-PATENT-APPL-SN-641143	c 27	N85-34280 *	US-PATENT-APPL-SN-658133	c 71	N78-10837 *
US-PATENT-APPL-SN-627257	c 08	N71-12504 *	US-PATENT-APPL-SN-641146	c 76	N87-13313 *	US-PATENT-APPL-SN-658440	c 10	N72-20225 *
US-PATENT-APPL-SN-627537	c 71	N88-24241 *	US-PATENT-APPL-SN-641147	c 27	N87-23751 *	US-PATENT-APPL-SN-658449	c 32	N77-20289 *
US-PATENT-APPL-SN-627599	c 18	N71-16046 *	US-PATENT-APPL-SN-641152	c 23	N87-28605 *	US-PATENT-APPL-SN-658450	c 37	N77-22482 *
US-PATENT-APPL-SN-628094	c 16	N71-20400 *	US-PATENT-APPL-SN-641153	c 27	N86-32568 *	US-PATENT-APPL-SN-658487	c 37	N81-25371 *
US-PATENT-APPL-SN-628221	c 07	N78-18066 *	US-PATENT-APPL-SN-641420	c 03	N71-23449 *	US-PATENT-APPL-SN-658555	c 14	N71-15605 *
US-PATENT-APPL-SN-628246	c 15	N71-17687 *	US-PATENT-APPL-SN-641431	c 30	N71-16090 *	US-PATENT-APPL-SN-658556	c 15	N71-15607 *
US-PATENT-APPL-SN-628								

US-PATENT-APPL-SN-659474	c 35	N86-26595 *	US-PATENT-APPL-SN-674356	c 14	N71-23699 *	US-PATENT-APPL-SN-686933	c 14	N71-17588 *
US-PATENT-APPL-SN-659475	c 31	N86-32587 *	US-PATENT-APPL-SN-674357	c 05	N71-12351 *	US-PATENT-APPL-SN-686959	c 02	N88-14071 *
US-PATENT-APPL-SN-659882	c 37	N78-13436 *	US-PATENT-APPL-SN-674395	c 76	N87-23286 *	US-PATENT-APPL-SN-687251	c 52	N79-12694 *
US-PATENT-APPL-SN-660004	c 15	N72-25450 *	US-PATENT-APPL-SN-674700	c 27	N77-31308 *	US-PATENT-APPL-SN-687822	c 44	N78-14625 *
US-PATENT-APPL-SN-660571	c 26	N71-23654 *	US-PATENT-APPL-SN-675238	c 10	N71-26374 *	US-PATENT-APPL-SN-688742	c 15	N71-20441 *
US-PATENT-APPL-SN-660572	c 15	N71-15571 *	US-PATENT-APPL-SN-675328	c 35	N78-15461 *	US-PATENT-APPL-SN-688743	c 15	N71-20393 *
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US-PATENT-APPL-SN-660842	c 14	N71-23726 *	US-PATENT-APPL-SN-676375	c 14	N71-18483 *	US-PATENT-APPL-SN-688852	c 44	N78-28594 *
US-PATENT-APPL-SN-660843	c 08	N71-24650 *	US-PATENT-APPL-SN-676386	c 08	N71-12507 *	US-PATENT-APPL-SN-688854	c 54	N77-32722 *
US-PATENT-APPL-SN-6610	c 15	N72-22492 *	US-PATENT-APPL-SN-676387	c 10	N71-25950 *	US-PATENT-APPL-SN-688856	c 54	N78-32720 *
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US-PATENT-APPL-SN-661481	c 26	N88-14179 *	US-PATENT-APPL-SN-676432	c 28	N78-24365 *	US-PATENT-APPL-SN-689455	c 54	N74-32546 *
US-PATENT-APPL-SN-6615	c 03	N72-25019 *	US-PATENT-APPL-SN-676432	c 28	N80-20402 *	US-PATENT-APPL-SN-690163	c 14	N71-18465 *
US-PATENT-APPL-SN-6616	c 03	N72-22042 *	US-PATENT-APPL-SN-676432	c 28	N81-14103 *	US-PATENT-APPL-SN-690172	c 11	N72-22245 *
US-PATENT-APPL-SN-6617	c 15	N72-22488 *	US-PATENT-APPL-SN-676433	c 52	N77-28716 *	US-PATENT-APPL-SN-690273	c 20	N87-14420 *
US-PATENT-APPL-SN-66206	c 11	N73-13257 *	US-PATENT-APPL-SN-676957	c 32	N77-18307 *	US-PATENT-APPL-SN-690274	c 05	N87-14314 *
US-PATENT-APPL-SN-662175	c 09	N77-27131 *	US-PATENT-APPL-SN-676958	c 54	N76-22914 *	US-PATENT-APPL-SN-690815	c 32	N77-24328 *
US-PATENT-APPL-SN-662176	c 32	N77-21267 *	US-PATENT-APPL-SN-676958	c 52	N81-25661 *	US-PATENT-APPL-SN-690816	c 37	N78-25426 *
US-PATENT-APPL-SN-662181	c 25	N82-21269 *	US-PATENT-APPL-SN-67730	c 15	N73-13463 *	US-PATENT-APPL-SN-690997	c 16	N71-24828 *
US-PATENT-APPL-SN-662182	c 37	N78-27424 *	US-PATENT-APPL-SN-677351	c 35	N77-32455 *	US-PATENT-APPL-SN-690998	c 30	N71-15990 *
US-PATENT-APPL-SN-662182	c 35	N79-26372 *	US-PATENT-APPL-SN-677352	c 43	N78-10529 *	US-PATENT-APPL-SN-691046	c 36	N77-25501 *
US-PATENT-APPL-SN-662763	c 15	N73-12489 *	US-PATENT-APPL-SN-677353	c 52	N78-14773 *	US-PATENT-APPL-SN-691256	c 35	N77-31465 *
US-PATENT-APPL-SN-662828	c 11	N71-18578 *	US-PATENT-APPL-SN-677475	c 32	N71-26681 *	US-PATENT-APPL-SN-691647	c 52	N82-11770 *
US-PATENT-APPL-SN-662829	c 15	N71-15597 *	US-PATENT-APPL-SN-677476	c 14	N71-17586 *	US-PATENT-APPL-SN-691735	c 09	N71-12520 *
US-PATENT-APPL-SN-663008	c 37	N77-28486 *	US-PATENT-APPL-SN-677505	c 03	N71-13521 *	US-PATENT-APPL-SN-691736	c 15	N71-16210 *
US-PATENT-APPL-SN-663180	c 10	N71-23663 *	US-PATENT-APPL-SN-677506	c 16	N71-15567 *	US-PATENT-APPL-SN-691737	c 07	N71-24742 *
US-PATENT-APPL-SN-663840	c 27	N86-20561 *	US-PATENT-APPL-SN-677508	c 16	N71-15551 *	US-PATENT-APPL-SN-691738	c 08	N71-18694 *
US-PATENT-APPL-SN-664091	c 43	N79-17288 *	US-PATENT-APPL-SN-67815	c 28	N72-22771 *	US-PATENT-APPL-SN-691739	c 32	N71-15974 *
US-PATENT-APPL-SN-665032	c 74	N77-22950 *	US-PATENT-APPL-SN-678520	c 20	N78-24275 *	US-PATENT-APPL-SN-691909	c 05	N71-24606 *
US-PATENT-APPL-SN-665033	c 20	N77-20162 *	US-PATENT-APPL-SN-678700	c 05	N71-19439 *	US-PATENT-APPL-SN-691936	c 26	N77-32279 *
US-PATENT-APPL-SN-665209	c 14	N71-23725 *	US-PATENT-APPL-SN-678813	c 33	N81-29342 *	US-PATENT-APPL-SN-69209	c 15	N72-21463 *
US-PATENT-APPL-SN-665676	c 14	N71-19568 *	US-PATENT-APPL-SN-679055	c 08	N71-24633 *	US-PATENT-APPL-SN-692284	c 27	N78-14164 *
US-PATENT-APPL-SN-665679	c 15	N71-20395 *	US-PATENT-APPL-SN-679862	c 20	N71-16340 *	US-PATENT-APPL-SN-692331	c 10	N71-26326 *
US-PATENT-APPL-SN-665680	c 24	N71-16213 *	US-PATENT-APPL-SN-679885	c 09	N71-12521 *	US-PATENT-APPL-SN-692332	c 07	N71-11281 *
US-PATENT-APPL-SN-665681	c 15	N71-18616 *	US-PATENT-APPL-SN-679980	c 44	N82-24642 *	US-PATENT-APPL-SN-692413	c 25	N78-25148 *
US-PATENT-APPL-SN-665734	c 35	N78-18390 *	US-PATENT-APPL-SN-679987	c 44	N82-24644 *	US-PATENT-APPL-SN-692414	c 32	N77-24331 *
US-PATENT-APPL-SN-666551	c 14	N71-23698 *	US-PATENT-APPL-SN-679996	c 44	N82-24643 *	US-PATENT-APPL-SN-692471	c 09	N71-12518 *
US-PATENT-APPL-SN-666553	c 03	N71-11055 *	US-PATENT-APPL-SN-680015	c 52	N79-14750 *	US-PATENT-APPL-SN-692636	c 27	N81-24258 *
US-PATENT-APPL-SN-666554	c 33	N71-16104 *	US-PATENT-APPL-SN-680048	c 44	N82-24641 *	US-PATENT-APPL-SN-692745	c 36	N87-17026 *
US-PATENT-APPL-SN-666555	c 07	N71-24614 *	US-PATENT-APPL-SN-680067	c 07	N77-27116 *	US-PATENT-APPL-SN-692801	c 37	N87-22977 *
US-PATENT-APPL-SN-666992	c 27	N77-30236 *	US-PATENT-APPL-SN-68023	c 05	N72-33096 *	US-PATENT-APPL-SN-692802	c 37	N87-17034 *
US-PATENT-APPL-SN-667010	c 34	N77-27345 *	US-PATENT-APPL-SN-68024	c 17	N72-22535 *	US-PATENT-APPL-SN-692875	c 37	N86-20788 *
US-PATENT-APPL-SN-667625	c 31	N71-15674 *	US-PATENT-APPL-SN-680938	c 74	N77-26942 *	US-PATENT-APPL-SN-693074	c 44	N78-24609 *
US-PATENT-APPL-SN-667636	c 03	N71-20491 *	US-PATENT-APPL-SN-680939	c 44	N78-10554 *	US-PATENT-APPL-SN-693419	c 31	N71-16222 *
US-PATENT-APPL-SN-667637	c 28	N71-14044 *	US-PATENT-APPL-SN-680957	c 35	N77-27366 *	US-PATENT-APPL-SN-693420	c 31	N71-16080 *
US-PATENT-APPL-SN-667928	c 35	N77-30436 *	US-PATENT-APPL-SN-680958	c 74	N78-18905 *	US-PATENT-APPL-SN-694246	c 15	N71-26673 *
US-PATENT-APPL-SN-667929	c 35	N79-14346 *	US-PATENT-APPL-SN-681000	c 34	N78-25350 *	US-PATENT-APPL-SN-694247	c 09	N69-21927 *
US-PATENT-APPL-SN-667930	c 32	N77-28346 *	US-PATENT-APPL-SN-681001	c 74	N76-22993 *	US-PATENT-APPL-SN-694317	c 12	N71-20436 *
US-PATENT-APPL-SN-668116	c 35	N76-16391 *	US-PATENT-APPL-SN-681017	c 44	N77-32583 *	US-PATENT-APPL-SN-694340	c 11	N71-17600 *
US-PATENT-APPL-SN-668238	c 15	N71-15608 *	US-PATENT-APPL-SN-681041	c 37	N86-27629 *	US-PATENT-APPL-SN-694345	c 10	N71-23669 *
US-PATENT-APPL-SN-668241	c 15	N71-17685 *	US-PATENT-APPL-SN-681096	c 44	N77-32582 *	US-PATENT-APPL-SN-694406	c 35	N79-10389 *
US-PATENT-APPL-SN-668242	c 10	N71-27272 *	US-PATENT-APPL-SN-681687	c 03	N71-20273 *	US-PATENT-APPL-SN-694407	c 27	N80-23452 *
US-PATENT-APPL-SN-668247	c 09	N71-20445 *	US-PATENT-APPL-SN-681692	c 08	N71-12506 *	US-PATENT-APPL-SN-694455	c 33	N77-30365 *
US-PATENT-APPL-SN-668248	c 10	N71-26331 *	US-PATENT-APPL-SN-681693	c 09	N71-18598 *	US-PATENT-APPL-SN-694488	c 23	N75-14834 *
US-PATENT-APPL-SN-668249	c 03	N71-20407 *	US-PATENT-APPL-SN-681942	c 18	N71-15688 *	US-PATENT-APPL-SN-695513	c 07	N78-25089 *
US-PATENT-APPL-SN-668257	c 23	N71-16100 *	US-PATENT-APPL-SN-682416	c 34	N77-24423 *	US-PATENT-APPL-SN-695973	c 05	N71-12343 *
US-PATENT-APPL-SN-668302	c 07	N71-12390 *	US-PATENT-APPL-SN-682435	c 27	N77-32308 *	US-PATENT-APPL-SN-696374	c 44	N80-29835 *
US-PATENT-APPL-SN-668432	c 35	N86-29174 *	US-PATENT-APPL-SN-683073	c 44	N81-29525 *	US-PATENT-APPL-SN-696679	c 38	N79-14398 *
US-PATENT-APPL-SN-668751	c 06	N71-11237 *	US-PATENT-APPL-SN-683073	c 44	N82-28780 *	US-PATENT-APPL-SN-696989	c 27	N77-30237 *
US-PATENT-APPL-SN-668755	c 15	N71-17693 *	US-PATENT-APPL-SN-683101	c 33	N87-21235 *	US-PATENT-APPL-SN-697075	c 15	N71-27184 *
US-PATENT-APPL-SN-668771	c 35	N78-32397 *	US-PATENT-APPL-SN-683111	c 33	N87-22894 *	US-PATENT-APPL-SN-697341	c 09	N71-23188 *
US-PATENT-APPL-SN-668783	c 28	N80-10374 *	US-PATENT-APPL-SN-683465	c 27	N82-29451 *	US-PATENT-APPL-SN-698239	c 33	N78-17294 *
US-PATENT-APPL-SN-668968	c 09	N71-12515 *	US-PATENT-APPL-SN-683507	c 15	N71-15609 *	US-PATENT-APPL-SN-698279	c 37	N87-22976 *
US-PATENT-APPL-SN-668969	c 08	N71-19288 *	US-PATENT-APPL-SN-683606	c 09	N71-24717 *	US-PATENT-APPL-SN-698592	c 15	N71-18580 *
US-PATENT-APPL-SN-668971	c 07	N78-33101 *	US-PATENT-APPL-SN-683612	c 01	N69-39981 *	US-PATENT-APPL-SN-698629	c 09	N71-12516 *
US-PATENT-APPL-SN-669140	c 44	N86-32875 *	US-PATENT-APPL-SN-683613	c 15	N71-15610 *	US-PATENT-APPL-SN-698630	c 09	N71-24841 *
US-PATENT-APPL-SN-669336	c 15	N71-17651 *	US-PATENT-APPL-SN-684045	c 07	N80-26298 *	US-PATENT-APPL-SN-698641	c 74	N86-28732 *
US-PATENT-APPL-SN-669911	c 33	N78-17295 *	US-PATENT-APPL-SN-684083	c 09	N71-24596 *	US-PATENT-APPL-SN-698646	c 24	N78-15180 *
US-PATENT-APPL-SN-669928	c 44	N77-22607 *	US-PATENT-APPL-SN-684171	c 26	N78-18183 *	US-PATENT-APPL-SN-699002	c 32	N78-15323 *
US-PATENT-APPL-SN-670814	c 03	N71-19545 *	US-PATENT-APPL-SN-684178	c 15	N71-23812 *	US-PATENT-APPL-SN-699012	c 33	N78-27326 *
US-PATENT-APPL-SN-670829	c 28	N72-23809 *	US-PATENT-APPL-SN-684186	c 35	N88-29150 *	US-PATENT-APPL-SN-700040	c 18	N72-23581 *
US-PATENT-APPL-SN-672209	c 52	N82-22875 *	US-PATENT-APPL-SN-684190	c 54	N86-28619 *	US-PATENT-APPL-SN-700120	c 15	N71-20440 *
US-PATENT-APPL-SN-672210	c 25	N78-10224 *	US-PATENT-APPL-SN-684192	c 54	N86-28620 *	US-PATENT-APPL-SN-700142	c 21	N71-14159 *
US-PATENT-APPL-SN-672219	c 37	N80-28711 *	US-PATENT-APPL-SN-684193	c 54	N86-28618 *	US-PATENT-APPL-SN-700174	c 02	N71-20570 *
US-PATENT-APPL-SN-672219	c 37	N81-26447 *	US-PATENT-APPL-SN-684194	c 35	N85-20300 *	US-PATENT-APPL-SN-700255	c 33	N87-21234 *
US-PATENT-APPL-SN-672220	c 31	N78-17237 *	US-PATENT-APPL-SN-684209	c 10	N71-19418 *	US-PATENT-APPL-SN-70032	c 11	N73-12264 *
US-PATENT-APPL-SN-672221	c 07	N78-27121 *	US-PATENT-APPL-SN-684807	c 75	N78-27913 *	US-PATENT-APPL-SN-700467	c 52	N79-14749 *
US-PATENT-APPL-SN-672222	c 07	N78-25090 *	US-PATENT-APPL-SN-684894	c 17	N71-26773 *	US-PATENT-APPL-SN-700541	c 10	N71-25139 *
US-PATENT-APPL-SN-672223	c 51	N78-27733 *	US-PATENT-APPL-SN-685027	c 25	N78-10225 *	US-PATENT-APPL-SN-700586	c 15	N71-19570 *
US-PATENT-APPL-SN-672224	c 37	N86-25790 *	US-PATENT-APPL-SN-685463	c 15	N71-23254 *	US-PATENT-APPL-SN-700673	c 39	N77-28511 *
US-PATENT-APPL-SN-672382	c 15	N71-23815 *	US-PATENT-APPL-SN-685473	c 17	N71-16044 *	US-PATENT-APPL-SN-700984	c 11	N71-19494 *
US-PATENT-APPL-SN-672383	c 15	N71-24045 *	US-PATENT-APPL-SN-685497	c 07	N69-39974 *	US-PATENT-APPL-SN-700985	c 15	N69-23190 *
US-PATENT-APPL-SN-672384	c 15	N71-27067 *	US-PATENT-APPL-SN-685607	c 37	N86-21850 *	US-PATENT-APPL-SN-700986	c 12	N71-26387 *
US-PATENT-APPL-SN-672388	c 26	N72-17820 *	US-PATENT-APPL-SN-685748	c 07	N71-11282 *	US-PATENT-APPL-SN-700987	c 09	N71-19610 *
US-PATENT-APPL-SN-672636	c 37	N79-11405 *	US-PATENT-APPL-SN-685750	c 27	N71-16392 *	US-PATENT-APPL-SN-701244	c 05	N72-20096 *
US-PATENT-APPL-SN-672695	c 27	N78-17206 *	US-PATENT-APPL-SN-685764	c 14	N69-27459 *	US-PATENT-APPL-SN-701448	c 52	N78-10686 *
US-PATENT-APPL-SN-672815	c 37	N77-23482 *	US-PATENT-APPL-SN-685766	c 15	N69-21924 *	US-PATENT-APPL-SN-701486	c 31	N87-21159 *
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US-PATENT-APPL-SN-673227	c 11	N71-24964 *	US-PATENT-APPL-SN-686209	c 15	N71-23809 *	US-PATENT-APPL-SN-701654	c 03	N71-11049 *
US-PATENT-APPL-SN-673228	c 07	N71-19433 *	US-PATENT-APPL-SN-686248	c 14	N71-26774 *	US-PATENT-APPL-SN-701679	c 02	N71-19287 *
US-PATENT-APPL-SN-673229	c 33	N71-15641 *	US-PATENT-APPL-SN-686296	c 18	N71-14014 *	US-PATENT-APPL-SN-701679	c 07	N73-20174 *
US-PATENT-APPL-SN-673685	c 60	N87-21591 *	US-PATENT-APPL-SN-686231	c 38	N78-32447 *	US-PATENT-APPL-SN-701732	c 24	N71-16095 *
US-PATENT-APPL-SN-								



US-PATENT-APPL-SN-702115	c 71	N79-14871 *	US-PATENT-APPL-SN-718752	c 03	N71-18698 *	US-PATENT-APPL-SN-739072	c 33	N75-27251 *
US-PATENT-APPL-SN-702396	c 31	N71-16345 *	US-PATENT-APPL-SN-718769	c 14	N71-17662 *	US-PATENT-APPL-SN-739922	c 14	N73-25461 *
US-PATENT-APPL-SN-702911	c 15	N71-24875 *	US-PATENT-APPL-SN-719029	c 14	N71-27186 *	US-PATENT-APPL-SN-739932	c 15	N72-22485 *
US-PATENT-APPL-SN-702967	c 06	N71-24739 *	US-PATENT-APPL-SN-719173	c 28	N70-33331 *	US-PATENT-APPL-SN-7399391	c 09	N72-17156 *
US-PATENT-APPL-SN-703107	c 37	N77-22479 *	US-PATENT-APPL-SN-719794	c 35	N86-32695 *	US-PATENT-APPL-SN-739760	c 27	N86-31726 *
US-PATENT-APPL-SN-703847	c 72	N86-33127 *	US-PATENT-APPL-SN-719796	c 24	N86-21590 *	US-PATENT-APPL-SN-739788	c 37	N88-14360 *
US-PATENT-APPL-SN-703905	c 32	N80-14281 *	US-PATENT-APPL-SN-719798	c 76	N85-30934 *	US-PATENT-APPL-SN-739789	c 34	N85-29182 *
US-PATENT-APPL-SN-704180	c 36	N78-27402 *	US-PATENT-APPL-SN-719799	c 35	N86-25752 *	US-PATENT-APPL-SN-739792	c 33	N87-28833 *
US-PATENT-APPL-SN-704224	c 18	N71-15469 *	US-PATENT-APPL-SN-719869	c 31	N71-15676 *	US-PATENT-APPL-SN-739908	c 15	N78-25119 *
US-PATENT-APPL-SN-704299	c 10	N71-26577 *	US-PATENT-APPL-SN-719870	c 07	N71-26292 *	US-PATENT-APPL-SN-739909	c 37	N78-24545 *
US-PATENT-APPL-SN-704420	c 05	N71-11202 *	US-PATENT-APPL-SN-720041	c 05	N71-27234 *	US-PATENT-APPL-SN-739914	c 33	N78-10375 *
US-PATENT-APPL-SN-704446	c 10	N71-33407 *	US-PATENT-APPL-SN-720125	c 09	N71-12539 *	US-PATENT-APPL-SN-739915	c 37	N78-24544 *
US-PATENT-APPL-SN-704465	c 07	N71-24741 *	US-PATENT-APPL-SN-720224	c 09	N73-12211 *	US-PATENT-APPL-SN-739927	c 32	N71-16103 *
US-PATENT-APPL-SN-704468	c 25	N79-28253 *	US-PATENT-APPL-SN-720521	c 44	N78-25530 *	US-PATENT-APPL-SN-740153	c 28	N79-11231 *
US-PATENT-APPL-SN-704668	c 10	N71-12554 *	US-PATENT-APPL-SN-720546	c 18	N72-17532 *	US-PATENT-APPL-SN-740155	c 74	N78-27904 *
US-PATENT-APPL-SN-706013	c 33	N71-27862 *	US-PATENT-APPL-SN-721150	c 37	N78-17383 *	US-PATENT-APPL-SN-740156	c 71	N78-14867 *
US-PATENT-APPL-SN-706073	c 76	N79-11920 *	US-PATENT-APPL-SN-721607	c 18	N71-25881 *	US-PATENT-APPL-SN-740457	c 35	N78-32395 *
US-PATENT-APPL-SN-706424	c 27	N78-32256 *	US-PATENT-APPL-SN-723264	c 24	N78-10214 *	US-PATENT-APPL-SN-741056	c 07	N81-19116 *
US-PATENT-APPL-SN-706424	c 27	N80-10358 *	US-PATENT-APPL-SN-723264	c 24	N78-17149 *	US-PATENT-APPL-SN-741405	c 23	N86-21582 *
US-PATENT-APPL-SN-706424	c 27	N80-24438 *	US-PATENT-APPL-SN-723465	c 15	N72-29488 *	US-PATENT-APPL-SN-741461	c 12	N71-18603 *
US-PATENT-APPL-SN-706425	c 33	N78-10376 *	US-PATENT-APPL-SN-723476	c 05	N71-12341 *	US-PATENT-APPL-SN-741749	c 52	N79-14751 *
US-PATENT-APPL-SN-706564	c 14	N71-17587 *	US-PATENT-APPL-SN-723488	c 09	N71-28691 *	US-PATENT-APPL-SN-741824	c 07	N71-12389 *
US-PATENT-APPL-SN-706564	c 76	N87-15882 *	US-PATENT-APPL-SN-723804	c 09	N71-24806 *	US-PATENT-APPL-SN-742034	c 33	N78-10377 *
US-PATENT-APPL-SN-706565	c 76	N87-25862 *	US-PATENT-APPL-SN-723805	c 10	N71-26339 *	US-PATENT-APPL-SN-742816	c 14	N71-17656 *
US-PATENT-APPL-SN-706681	c 35	N86-32696 *	US-PATENT-APPL-SN-723827	c 10	N71-27137 *	US-PATENT-APPL-SN-743249	c 35	N77-32456 *
US-PATENT-APPL-SN-706682	c 24	N86-28131 *	US-PATENT-APPL-SN-724551	c 15	N71-17696 *	US-PATENT-APPL-SN-743429	c 07	N71-11285 *
US-PATENT-APPL-SN-707124	c 44	N77-22606 *	US-PATENT-APPL-SN-724874	c 76	N78-24950 *	US-PATENT-APPL-SN-743525	c 07	N71-28430 *
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US-PATENT-APPL-SN-707440	c 06	N73-30102 *	US-PATENT-APPL-SN-725432	c 07	N71-24622 *	US-PATENT-APPL-SN-744522	c 33	N77-21314 *
US-PATENT-APPL-SN-707495	c 11	N71-18773 *	US-PATENT-APPL-SN-725475	c 31	N71-15643 *	US-PATENT-APPL-SN-744573	c 44	N78-25531 *
US-PATENT-APPL-SN-708658	c 33	N77-26385 *	US-PATENT-APPL-SN-725686	c 27	N87-15304 *	US-PATENT-APPL-SN-744574	c 25	N78-14104 *
US-PATENT-APPL-SN-708660	c 34	N78-27357 *	US-PATENT-APPL-SN-725689	c 37	N87-17037 *	US-PATENT-APPL-SN-744577	c 35	N79-10391 *
US-PATENT-APPL-SN-708771	c 26	N78-24333 *	US-PATENT-APPL-SN-725714	c 33	N89-14384 *	US-PATENT-APPL-SN-744910	c 15	N71-17649 *
US-PATENT-APPL-SN-708795	c 37	N77-28487 *	US-PATENT-APPL-SN-725719	c 15	N71-26243 *	US-PATENT-APPL-SN-745337	c 28	N72-20758 *
US-PATENT-APPL-SN-708796	c 36	N78-18410 *	US-PATENT-APPL-SN-725725	c 27	N87-16908 *	US-PATENT-APPL-SN-745384	c 25	N79-11151 *
US-PATENT-APPL-SN-708800	c 54	N78-17676 *	US-PATENT-APPL-SN-725727	c 27	N87-22845 *	US-PATENT-APPL-SN-745766	c 37	N79-11403 *
US-PATENT-APPL-SN-708951	c 27	N78-31232 *	US-PATENT-APPL-SN-726898	c 12	N71-17579 *	US-PATENT-APPL-SN-745852	c 12	N71-17661 *
US-PATENT-APPL-SN-709255	c 37	N86-32738 *	US-PATENT-APPL-SN-727034	c 35	N87-14669 *	US-PATENT-APPL-SN-745973	c 36	N86-29204 *
US-PATENT-APPL-SN-709257	c 32	N87-14559 *	US-PATENT-APPL-SN-727035	c 33	N86-32624 *	US-PATENT-APPL-SN-745977	c 35	N87-14671 *
US-PATENT-APPL-SN-709398	c 06	N71-13461 *	US-PATENT-APPL-SN-727444	c 31	N81-15154 *	US-PATENT-APPL-SN-746160	c 37	N86-20797 *
US-PATENT-APPL-SN-709399	c 16	N71-26154 *	US-PATENT-APPL-SN-727480	c 14	N71-17658 *	US-PATENT-APPL-SN-746269	c 44	N78-25528 *
US-PATENT-APPL-SN-709415	c 44	N78-27515 *	US-PATENT-APPL-SN-727503	c 08	N81-19130 *	US-PATENT-APPL-SN-746578	c 12	N79-26075 *
US-PATENT-APPL-SN-709622	c 33	N71-24858 *	US-PATENT-APPL-SN-727538	c 33	N86-20681 *	US-PATENT-APPL-SN-746579	c 33	N81-27397 *
US-PATENT-APPL-SN-70967	c 07	N73-13149 *	US-PATENT-APPL-SN-727931	c 33	N88-24862 *	US-PATENT-APPL-SN-746580	c 34	N78-17335 *
US-PATENT-APPL-SN-70967	c 32	N74-10132 *	US-PATENT-APPL-SN-728234	c 03	N71-12255 *	US-PATENT-APPL-SN-746809	c 35	N87-22953 *
US-PATENT-APPL-SN-709849	c 52	N77-25772 *	US-PATENT-APPL-SN-728369	c 52	N76-33835 *	US-PATENT-APPL-SN-747579	c 14	N73-20478 *
US-PATENT-APPL-SN-710032	c 54	N77-30749 *	US-PATENT-APPL-SN-729299	c 03	N72-15986 *	US-PATENT-APPL-SN-747674	c 27	N80-26446 *
US-PATENT-APPL-SN-710035	c 44	N78-24608 *	US-PATENT-APPL-SN-729704	c 37	N87-23983 *	US-PATENT-APPL-SN-747675	c 37	N78-31426 *
US-PATENT-APPL-SN-710036	c 44	N78-32539 *	US-PATENT-APPL-SN-729719	c 32	N87-25511 *	US-PATENT-APPL-SN-748536	c 33	N86-20680 *
US-PATENT-APPL-SN-71047	c 09	N72-21247 *	US-PATENT-APPL-SN-729767	c 09	N87-14355 *	US-PATENT-APPL-SN-74861	c 27	N72-25699 *
US-PATENT-APPL-SN-71048	c 18	N73-12604 *	US-PATENT-APPL-SN-729767	c 24	N87-27742 *	US-PATENT-APPL-SN-74862	c 27	N73-16764 *
US-PATENT-APPL-SN-710533	c 02	N71-11043 *	US-PATENT-APPL-SN-729768	c 72	N87-21660 *	US-PATENT-APPL-SN-749121	c 07	N72-11449 *
US-PATENT-APPL-SN-710561	c 09	N71-12517 *	US-PATENT-APPL-SN-730045	c 32	N78-24391 *	US-PATENT-APPL-SN-749148	c 10	N71-19421 *
US-PATENT-APPL-SN-710562	c 31	N71-16085 *	US-PATENT-APPL-SN-730046	c 35	N78-32396 *	US-PATENT-APPL-SN-749149	c 15	N71-24897 *
US-PATENT-APPL-SN-710621	c 06	N73-27086 *	US-PATENT-APPL-SN-730162	c 09	N71-18599 *	US-PATENT-APPL-SN-749181	c 09	N71-24803 *
US-PATENT-APPL-SN-710945	c 33	N71-15568 *	US-PATENT-APPL-SN-730468	c 25	N79-11152 *	US-PATENT-APPL-SN-749320	c 14	N72-22443 *
US-PATENT-APPL-SN-710949	c 12	N71-17631 *	US-PATENT-APPL-SN-730700	c 07	N71-24583 *	US-PATENT-APPL-SN-749420	c 04	N82-16059 *
US-PATENT-APPL-SN-711898	c 16	N71-24934 *	US-PATENT-APPL-SN-730701	c 12	N71-18615 *	US-PATENT-APPL-SN-749548	c 10	N71-33129 *
US-PATENT-APPL-SN-711903	c 18	N71-26772 *	US-PATENT-APPL-SN-730702	c 33	N71-16356 *	US-PATENT-APPL-SN-750031	c 05	N73-32012 *
US-PATENT-APPL-SN-711921	c 18	N71-16105 *	US-PATENT-APPL-SN-730703	c 10	N71-13537 *	US-PATENT-APPL-SN-750235	c 25	N75-14844 *
US-PATENT-APPL-SN-711970	c 09	N71-18830 *	US-PATENT-APPL-SN-730733	c 28	N71-16224 *	US-PATENT-APPL-SN-750655	c 74	N78-32854 *
US-PATENT-APPL-SN-711971	c 09	N71-23598 *	US-PATENT-APPL-SN-730734	c 15	N71-17654 *	US-PATENT-APPL-SN-750786	c 07	N71-27341 *
US-PATENT-APPL-SN-711972	c 06	N71-24607 *	US-PATENT-APPL-SN-730778	c 32	N79-10264 *	US-PATENT-APPL-SN-750787	c 10	N71-27126 *
US-PATENT-APPL-SN-712065	c 08	N71-12503 *	US-PATENT-APPL-SN-731388	c 15	N71-24835 *	US-PATENT-APPL-SN-750792	c 37	N79-11402 *
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US-PATENT-APPL-SN-712270	c 52	N79-27836 *	US-PATENT-APPL-SN-732455	c 22	N71-28759 *	US-PATENT-APPL-SN-751061	c 18	N71-29040 *
US-PATENT-APPL-SN-712419	c 35	N78-14364 *	US-PATENT-APPL-SN-732630	c 36	N78-14380 *	US-PATENT-APPL-SN-751198	c 03	N71-24718 *
US-PATENT-APPL-SN-712658	c 07	N71-19773 *	US-PATENT-APPL-SN-732833	c 15	N72-28495 *	US-PATENT-APPL-SN-751215	c 22	N72-20597 *
US-PATENT-APPL-SN-712981	c 31	N78-25256 *	US-PATENT-APPL-SN-732917	c 14	N71-17575 *	US-PATENT-APPL-SN-751266	c 15	N71-33518 *
US-PATENT-APPL-SN-713027	c 37	N79-10419 *	US-PATENT-APPL-SN-732921	c 10	N71-26544 *	US-PATENT-APPL-SN-751644	c 85	N87-21755 *
US-PATENT-APPL-SN-713162	c 06	N71-26754 *	US-PATENT-APPL-SN-732922	c 17	N71-28747 *	US-PATENT-APPL-SN-751691	c 37	N87-21332 *
US-PATENT-APPL-SN-713188	c 08	N71-33110 *	US-PATENT-APPL-SN-733039	c 07	N72-12081 *	US-PATENT-APPL-SN-751695	c 71	N87-21652 *
US-PATENT-APPL-SN-713449	c 74	N87-25843 *	US-PATENT-APPL-SN-733039	c 09	N72-25247 *	US-PATENT-APPL-SN-752050	c 07	N81-19115 *
US-PATENT-APPL-SN-713616	c 06	N71-27363 *	US-PATENT-APPL-SN-733110	c 14	N71-15969 *	US-PATENT-APPL-SN-752729	c 09	N71-26787 *
US-PATENT-APPL-SN-714051	c 33	N86-21742 *	US-PATENT-APPL-SN-733625	c 31	N79-11246 *	US-PATENT-APPL-SN-752748	c 35	N78-25391 *
US-PATENT-APPL-SN-714158	c 33	N78-13320 *	US-PATENT-APPL-SN-734222	c 15	N72-25454 *	US-PATENT-APPL-SN-752946	c 15	N71-29032 *
US-PATENT-APPL-SN-714296	c 14	N71-15604 *	US-PATENT-APPL-SN-734366	c 27	N87-22847 *	US-PATENT-APPL-SN-752947	c 31	N71-15689 *
US-PATENT-APPL-SN-714595	c 15	N71-17822 *	US-PATENT-APPL-SN-734805	c 14	N70-34816 *	US-PATENT-APPL-SN-753103	c 37	N80-14397 *
US-PATENT-APPL-SN-715485	c 74	N78-14889 *	US-PATENT-APPL-SN-734901	c 24	N78-17205 *	US-PATENT-APPL-SN-753452	c 07	N79-14096 *
US-PATENT-APPL-SN-715975	c 06	N71-11240 *	US-PATENT-APPL-SN-734902	c 27	N78-14096 *	US-PATENT-APPL-SN-753964	c 24	N78-27180 *
US-PATENT-APPL-SN-716183	c 15	N71-18132 *	US-PATENT-APPL-SN-735911	c 14	N70-41946 *	US-PATENT-APPL-SN-753965	c 54	N78-31735 *
US-PATENT-APPL-SN-716734	c 15	N71-17628 *	US-PATENT-APPL-SN-736286	c 32	N79-11265 *	US-PATENT-APPL-SN-753965	c 54	N79-24651 *
US-PATENT-APPL-SN-716795	c 14	N71-20435 *	US-PATENT-APPL-SN-736848	c 23	N71-16212 *	US-PATENT-APPL-SN-753971	c 71	N84-14873 *
US-PATENT-APPL-SN-716885	c 74	N78-33913 *	US-PATENT-APPL-SN-736909	c 37	N79-11404 *	US-PATENT-APPL-SN-753974	c 16	N71-33410 *
US-PATENT-APPL-SN-717052	c 14	N71-17626 *	US-PATENT-APPL-SN-736910	c 27	N78-32260 *	US-PATENT-APPL-SN-753976	c 54	N78-17675 *
US-PATENT-APPL-SN-717319	c 44	N77-31601 *	US-PATENT-APPL-SN-737018	c 37	N86-20801 *	US-PATENT-APPL-SN-753977	c 74	N79-12890 *
US-PATENT-APPL-SN-717320	c 44	N78-15560 *	US-PATENT-APPL-SN-737974	c 33	N78-18308 *	US-PATENT-APPL-SN-753978	c 54	N78-32721 *
US-PATENT-APPL-SN-717622	c 09	N71-25066 *	US-PATENT-APPL-SN-737975	c 32	N84-27952 *	US-PATENT-APPL-SN-754019	c 09	N71-25999 *
US-PATENT-APPL-SN-718095	c 28	N70-39899 *	US-PATENT-APPL-SN-738119	c 18	N71-15545 *	US-PATENT-APPL-SN-754020	c 12	N71-27332 *
US-PATENT-APPL-SN-718137	c 44	N78-31527 *	US-PATENT-APPL-SN-738218	c 37	N78-27425 *	US-PATENT-APPL-SN-754055	c 07	N71-24624 *
US-PATENT-APPL-SN-718244	c 05	N78-32086 *	US-PATENT-APPL-SN-738314	c 12	N71-17573 *	US-PATENT-APPL-SN-754066	c 39	N78-15512 *
US-PATENT-APPL-SN-718266	c 74	N78-17867 *	US-PATENT-APPL-SN-738315	c 14	N71-27334 *	US-PATENT-APPL-SN-754331	c 21	N72-31637 *
US-PATENT-APPL-SN-718267	c 26	N77-29260 *	US-PATENT-APPL-SN-738315	c 14	N72-31446 *	US-PATENT-APPL-SN-754362	c 27	N87-21112 *
US-PATENT-APPL-SN-718268	c 44	N78-33526 *	US-PATENT-APPL-SN-738315	c 15	N72-23497 *	US-PATENT-APPL-SN-75		



US-PATENT-APPL-SN-755310	c 25	N78-15210 *	US-PATENT-APPL-SN-768662	c 07	N73-25160 *	US-PATENT-APPL-SN-782480	c 33	N78-32340 *
US-PATENT-APPL-SN-755323	c 74	N79-11865 *	US-PATENT-APPL-SN-768795	c 33	N79-10339 *	US-PATENT-APPL-SN-782481	c 44	N78-32542 *
US-PATENT-APPL-SN-755960	c 31	N88-29052 *	US-PATENT-APPL-SN-768942	c 46	N74-23068 *	US-PATENT-APPL-SN-782482	c 33	N79-11315 *
US-PATENT-APPL-SN-756260	c 23	N71-26722 *	US-PATENT-APPL-SN-768999	c 09	N72-22201 *	US-PATENT-APPL-SN-782544	c 14	N71-27325 *
US-PATENT-APPL-SN-756266	c 15	N71-26145 *	US-PATENT-APPL-SN-769148	c 52	N79-10724 *	US-PATENT-APPL-SN-782693	c 33	N79-10337 *
US-PATENT-APPL-SN-756381	c 06	N71-25929 *	US-PATENT-APPL-SN-769149	c 33	N78-32339 *	US-PATENT-APPL-SN-782955	c 07	N71-33108 *
US-PATENT-APPL-SN-756511	c 09	N71-27016 *	US-PATENT-APPL-SN-769592	c 15	N72-16330 *	US-PATENT-APPL-SN-782956	c 10	N71-25865 *
US-PATENT-APPL-SN-756834	c 15	N72-21466 *	US-PATENT-APPL-SN-769665	c 15	N72-11387 *	US-PATENT-APPL-SN-783374	c 15	N71-27147 *
US-PATENT-APPL-SN-757017	c 35	N77-21393 *	US-PATENT-APPL-SN-769788	c 07	N71-11300 *	US-PATENT-APPL-SN-783375	c 07	N71-24621 *
US-PATENT-APPL-SN-757625	c 09	N71-26701 *	US-PATENT-APPL-SN-770203	c 05	N71-11195 *	US-PATENT-APPL-SN-783377	c 05	N71-28619 *
US-PATENT-APPL-SN-757857	c 10	N71-25900 *	US-PATENT-APPL-SN-770209	c 08	N71-27057 *	US-PATENT-APPL-SN-783378	c 07	N71-19436 *
US-PATENT-APPL-SN-757861	c 05	N71-11194 *	US-PATENT-APPL-SN-770371	c 15	N71-24599 *	US-PATENT-APPL-SN-783379	c 15	N71-17653 *
US-PATENT-APPL-SN-757875	c 09	N71-24805 *	US-PATENT-APPL-SN-770398	c 06	N71-27254 *	US-PATENT-APPL-SN-783886	c 37	N87-17035 *
US-PATENT-APPL-SN-758082	c 15	N71-17805 *	US-PATENT-APPL-SN-770398	c 06	N72-27144 *	US-PATENT-APPL-SN-783887	c 36	N87-25567 *
US-PATENT-APPL-SN-758390	c 28	N71-26642 *	US-PATENT-APPL-SN-770417	c 06	N73-33076 *	US-PATENT-APPL-SN-783888	c 37	N87-25582 *
US-PATENT-APPL-SN-758540	c 28	N73-27699 *	US-PATENT-APPL-SN-770425	c 06	N72-20121 *	US-PATENT-APPL-SN-783890	c 74	N87-17493 *
US-PATENT-APPL-SN-758721	c 52	N79-18580 *	US-PATENT-APPL-SN-770869	c 44	N78-25527 *	US-PATENT-APPL-SN-783890	c 74	N87-25843 *
US-PATENT-APPL-SN-758942	c 27	N71-14090 *	US-PATENT-APPL-SN-770920	c 37	N86-32736 *	US-PATENT-APPL-SN-784055	c 15	N72-11390 *
US-PATENT-APPL-SN-759220	c 27	N78-17214 *	US-PATENT-APPL-SN-771216	c 14	N72-17329 *	US-PATENT-APPL-SN-784521	c 14	N71-15620 *
US-PATENT-APPL-SN-759256	c 07	N71-27233 *	US-PATENT-APPL-SN-771245	c 27	N81-14076 *	US-PATENT-APPL-SN-784544	c 15	N72-12408 *
US-PATENT-APPL-SN-759457	c 33	N71-16357 *	US-PATENT-APPL-SN-771523	c 10	N71-18772 *	US-PATENT-APPL-SN-785078	c 03	N72-27053 *
US-PATENT-APPL-SN-759460	c 09	N71-24597 *	US-PATENT-APPL-SN-771530	c 09	N72-12136 *	US-PATENT-APPL-SN-785257	c 44	N79-14526 *
US-PATENT-APPL-SN-759665	c 14	N71-18481 *	US-PATENT-APPL-SN-771537	c 37	N87-23981 *	US-PATENT-APPL-SN-785279	c 27	N81-14077 *
US-PATENT-APPL-SN-759965	c 52	N79-26771 *	US-PATENT-APPL-SN-771538	c 24	N86-25416 *	US-PATENT-APPL-SN-785546	c 10	N71-25882 *
US-PATENT-APPL-SN-760057	c 44	N79-14527 *	US-PATENT-APPL-SN-77169	c 14	N72-21408 *	US-PATENT-APPL-SN-785595	c 10	N71-24861 *
US-PATENT-APPL-SN-760114	c 28	N72-11709 *	US-PATENT-APPL-SN-771759	c 09	N71-29008 *	US-PATENT-APPL-SN-785611	c 15	N71-24600 *
US-PATENT-APPL-SN-760374	c 27	N97-16000 *	US-PATENT-APPL-SN-771760	c 10	N71-25917 *	US-PATENT-APPL-SN-785613	c 05	N72-25119 *
US-PATENT-APPL-SN-760378	c 23	N88-24692 *	US-PATENT-APPL-SN-771803	c 07	N71-12391 *	US-PATENT-APPL-SN-785615	c 05	N72-20098 *
US-PATENT-APPL-SN-760389	c 37	N86-32737 *	US-PATENT-APPL-SN-771937	c 10	N71-24862 *	US-PATENT-APPL-SN-785620	c 21	N71-27324 *
US-PATENT-APPL-SN-760389	c 09	N71-24618 *	US-PATENT-APPL-SN-772006	c 17	N71-33408 *	US-PATENT-APPL-SN-785710	c 05	N71-24730 *
US-PATENT-APPL-SN-760771	c 44	N79-14528 *	US-PATENT-APPL-SN-772165	c 74	N79-13855 *	US-PATENT-APPL-SN-785780	c 18	N71-28729 *
US-PATENT-APPL-SN-760790	c 36	N87-28006 *	US-PATENT-APPL-SN-772167	c 25	N79-22235 *	US-PATENT-APPL-SN-786322	c 32	N79-20296 *
US-PATENT-APPL-SN-760791	c 27	N87-14515 *	US-PATENT-APPL-SN-772168	c 37	N79-20377 *	US-PATENT-APPL-SN-7867	c 14	N72-17324 *
US-PATENT-APPL-SN-760797	c 27	N87-16907 *	US-PATENT-APPL-SN-77220	c 14	N72-27409 *	US-PATENT-APPL-SN-7868	c 10	N72-17173 *
US-PATENT-APPL-SN-760799	c 54	N87-29118 *	US-PATENT-APPL-SN-77221	c 08	N72-25210 *	US-PATENT-APPL-SN-786913	c 27	N79-12221 *
US-PATENT-APPL-SN-760809	c 24	N78-24290 *	US-PATENT-APPL-SN-772434	c 52	N80-14687 *	US-PATENT-APPL-SN-78703	c 15	N73-20514 *
US-PATENT-APPL-SN-760810	c 26	N78-32229 *	US-PATENT-APPL-SN-77251	c 25	N70-41628 *	US-PATENT-APPL-SN-78704	c 05	N72-25121 *
US-PATENT-APPL-SN-760819	c 14	N70-34820 *	US-PATENT-APPL-SN-77252	c 02	N70-37939 *	US-PATENT-APPL-SN-78717	c 05	N73-13114 *
US-PATENT-APPL-SN-760927	c 26	N71-25490 *	US-PATENT-APPL-SN-77256	c 15	N70-33323 *	US-PATENT-APPL-SN-787393	c 23	N71-26206 *
US-PATENT-APPL-SN-760928	c 15	N71-28582 *	US-PATENT-APPL-SN-773029	c 09	N71-24893 *	US-PATENT-APPL-SN-787410	c 15	N71-19213 *
US-PATENT-APPL-SN-761007	c 18	N71-26155 *	US-PATENT-APPL-SN-773072	c 10	N72-28241 *	US-PATENT-APPL-SN-78766	c 05	N74-10907 *
US-PATENT-APPL-SN-761235	c 27	N86-32569 *	US-PATENT-APPL-SN-773530	c 25	N75-29192 *	US-PATENT-APPL-SN-787846	c 23	N71-33229 *
US-PATENT-APPL-SN-761252	c 27	N80-32515 *	US-PATENT-APPL-SN-774151	c 15	N71-17692 *	US-PATENT-APPL-SN-787906	c 03	N71-26084 *
US-PATENT-APPL-SN-761310	c 25	N88-23846 *	US-PATENT-APPL-SN-774265	c 10	N71-27365 *	US-PATENT-APPL-SN-787911	c 03	N71-28579 *
US-PATENT-APPL-SN-761404	c 09	N71-12526 *	US-PATENT-APPL-SN-774266	c 15	N71-26185 *	US-PATENT-APPL-SN-788045	c 24	N79-25142 *
US-PATENT-APPL-SN-762362	c 44	N79-24433 *	US-PATENT-APPL-SN-774384	c 32	N79-10262 *	US-PATENT-APPL-SN-788705	c 35	N78-24515 *
US-PATENT-APPL-SN-762363	c 44	N79-24432 *	US-PATENT-APPL-SN-774691	c 10	N72-31273 *	US-PATENT-APPL-SN-789043	c 10	N71-26531 *
US-PATENT-APPL-SN-762438	c 12	N71-17569 *	US-PATENT-APPL-SN-774733	c 14	N72-24477 *	US-PATENT-APPL-SN-789044	c 14	N72-20381 *
US-PATENT-APPL-SN-762935	c 14	N71-29041 *	US-PATENT-APPL-SN-775072	c 16	N71-24831 *	US-PATENT-APPL-SN-789045	c 15	N72-22489 *
US-PATENT-APPL-SN-762936	c 31	N69-27499 *	US-PATENT-APPL-SN-775239	c 37	N79-14382 *	US-PATENT-APPL-SN-789266	c 71	N88-24241 *
US-PATENT-APPL-SN-762956	c 14	N71-26627 *	US-PATENT-APPL-SN-775548	c 33	N87-21233 *	US-PATENT-APPL-SN-789278	c 15	N71-24694 *
US-PATENT-APPL-SN-762957	c 08	N71-27210 *	US-PATENT-APPL-SN-775870	c 09	N71-24800 *	US-PATENT-APPL-SN-789713	c 28	N86-23744 *
US-PATENT-APPL-SN-763040	c 14	N72-28438 *	US-PATENT-APPL-SN-775870	c 09	N72-22196 *	US-PATENT-APPL-SN-789903	c 07	N71-28429 *
US-PATENT-APPL-SN-763355	c 06	N71-28620 *	US-PATENT-APPL-SN-775877	c 02	N71-11039 *	US-PATENT-APPL-SN-790420	c 09	N71-24595 *
US-PATENT-APPL-SN-763684	c 15	N72-16329 *	US-PATENT-APPL-SN-775966	c 02	N71-1037 *	US-PATENT-APPL-SN-790556	c 08	N87-20999 *
US-PATENT-APPL-SN-763685	c 15	N71-24910 *	US-PATENT-APPL-SN-775968	c 31	N87-21160 *	US-PATENT-APPL-SN-790594	c 36	N87-23961 *
US-PATENT-APPL-SN-763705	c 09	N71-18720 *	US-PATENT-APPL-SN-775989	c 71	N87-21653 *	US-PATENT-APPL-SN-790596	c 35	N88-24927 *
US-PATENT-APPL-SN-763706	c 15	N71-24896 *	US-PATENT-APPL-SN-775990	c 17	N87-25348 *	US-PATENT-APPL-SN-790597	c 37	N88-14359 *
US-PATENT-APPL-SN-763729	c 12	N71-26546 *	US-PATENT-APPL-SN-776029	c 07	N79-10057 *	US-PATENT-APPL-SN-790637	c 44	N78-25529 *
US-PATENT-APPL-SN-763743	c 14	N72-21409 *	US-PATENT-APPL-SN-776146	c 44	N79-17313 *	US-PATENT-APPL-SN-791267	c 23	N72-17747 *
US-PATENT-APPL-SN-763744	c 10	N72-27246 *	US-PATENT-APPL-SN-776146	c 25	N82-21268 *	US-PATENT-APPL-SN-791268	c 33	N72-17947 *
US-PATENT-APPL-SN-763753	c 43	N78-14452 *	US-PATENT-APPL-SN-776185	c 03	N72-22041 *	US-PATENT-APPL-SN-791288	c 28	N71-25213 *
US-PATENT-APPL-SN-763868	c 15	N71-24679 *	US-PATENT-APPL-SN-777764	c 15	N71-27214 *	US-PATENT-APPL-SN-791364	c 14	N72-17328 *
US-PATENT-APPL-SN-763869	c 17	N71-16393 *	US-PATENT-APPL-SN-777765	c 15	N71-29018 *	US-PATENT-APPL-SN-791693	c 05	N71-11203 *
US-PATENT-APPL-SN-764245	c 24	N80-33482 *	US-PATENT-APPL-SN-777765	c 14	N73-28487 *	US-PATENT-APPL-SN-791888	c 23	N71-24725 *
US-PATENT-APPL-SN-764252	c 14	N71-25901 *	US-PATENT-APPL-SN-777766	c 31	N71-16221 *	US-PATENT-APPL-SN-792067	c 24	N78-17150 *
US-PATENT-APPL-SN-764470	c 16	N71-28554 *	US-PATENT-APPL-SN-777818	c 09	N71-27364 *	US-PATENT-APPL-SN-792068	c 51	N79-10693 *
US-PATENT-APPL-SN-764805	c 37	N87-17036 *	US-PATENT-APPL-SN-77786	c 14	N72-27412 *	US-PATENT-APPL-SN-792069	c 37	N79-10418 *
US-PATENT-APPL-SN-764812	c 10	N71-19468 *	US-PATENT-APPL-SN-777983	c 32	N79-24210 *	US-PATENT-APPL-SN-792623	c 14	N72-23457 *
US-PATENT-APPL-SN-764812	c 76	N88-24543 *	US-PATENT-APPL-SN-778195	c 24	N79-16915 *	US-PATENT-APPL-SN-793006	c 52	N86-19885 *
US-PATENT-APPL-SN-764823	c 33	N78-17296 *	US-PATENT-APPL-SN-77869	c 37	N79-21345 *	US-PATENT-APPL-SN-793657	c 17	N72-28536 *
US-PATENT-APPL-SN-765123	c 31	N71-15687 *	US-PATENT-APPL-SN-779024	c 10	N71-27271 *	US-PATENT-APPL-SN-793770	c 25	N71-15562 *
US-PATENT-APPL-SN-765138	c 44	N79-10513 *	US-PATENT-APPL-SN-779025	c 09	N72-23171 *	US-PATENT-APPL-SN-793771	c 14	N72-22440 *
US-PATENT-APPL-SN-765139	c 44	N78-31526 *	US-PATENT-APPL-SN-779160	c 14	N72-16282 *	US-PATENT-APPL-SN-793772	c 10	N71-18722 *
US-PATENT-APPL-SN-765165	c 32	N79-11264 *	US-PATENT-APPL-SN-779169	c 09	N71-28618 *	US-PATENT-APPL-SN-793823	c 09	N71-33109 *
US-PATENT-APPL-SN-765167	c 32	N79-10263 *	US-PATENT-APPL-SN-779415	c 60	N79-20751 *	US-PATENT-APPL-SN-794530	c 15	N72-11386 *
US-PATENT-APPL-SN-765264	c 02	N71-29128 *	US-PATENT-APPL-SN-779428	c 34	N78-25351 *	US-PATENT-APPL-SN-794968	c 15	N71-27146 *
US-PATENT-APPL-SN-765738	c 03	N71-11057 *	US-PATENT-APPL-SN-779429	c 08	N79-14108 *	US-PATENT-APPL-SN-795182	c 07	N71-24840 *
US-PATENT-APPL-SN-765978	c 37	N87-21334 *	US-PATENT-APPL-SN-779744	c 74	N87-23259 *	US-PATENT-APPL-SN-795217	c 33	N71-25351 *
US-PATENT-APPL-SN-765979	c 89	N86-22459 *	US-PATENT-APPL-SN-779847	c 15	N71-27091 *	US-PATENT-APPL-SN-795805	c 08	N88-23808 *
US-PATENT-APPL-SN-765980	c 27	N86-27451 *	US-PATENT-APPL-SN-779871	c 33	N79-20314 *	US-PATENT-APPL-SN-795945	c 37	N87-25573 *
US-PATENT-APPL-SN-765981	c 74	N87-28416 *	US-PATENT-APPL-SN-779883	c 27	N79-18052 *	US-PATENT-APPL-SN-796053	c 37	N87-22985 *
US-PATENT-APPL-SN-765991	c 35	N86-26598 *	US-PATENT-APPL-SN-780064	c 15	N71-27372 *	US-PATENT-APPL-SN-796256	c 52	N80-18691 *
US-PATENT-APPL-SN-766170	c 07	N71-24625 *	US-PATENT-APPL-SN-780065	c 12	N71-28741 *	US-PATENT-APPL-SN-796258	c 52	N82-22875 *
US-PATENT-APPL-SN-766244	c 15	N71-26721 *	US-PATENT-APPL-SN-780569	c 54	N78-31736 *	US-PATENT-APPL-SN-796263	c 27	N79-28307 *
US-PATENT-APPL-SN-766245	c 14	N71-27215 *	US-PATENT-APPL-SN-78065	c 08	N72-22162 *	US-PATENT-APPL-SN-796358	c 05	N72-11085 *
US-PATENT-APPL-SN-766697	c 09	N71-33519 *	US-PATENT-APPL-SN-780728	c 32	N78-31321 *	US-PATENT-APPL-SN-796360	c 15	N71-24696 *
US-PATENT-APPL-SN-7668	c 15	N71-26611 *	US-PATENT-APPL-SN-780729	c 33	N79-22737 *	US-PATENT-APPL-SN-796370	c 10	N71-27366 *
US-PATENT-APPL-SN-766999	c 33	N80-23559 *	US-PATENT-APPL-SN-780873	c 32	N81-27341 *	US-PATENT-APPL-SN-796405	c 14	N71-27185 *
US-PATENT-APPL-SN-7669	c 31	N72-18859 *	US-PATENT-APPL-SN-780874	c 35	N78-28411 *	US-PATENT-APPL-SN-796685	c 26	N72-28762 *
US-PATENT-APPL-SN-767741	c 09	N72-27228 *	US-PATENT-APPL-SN-780938	c 54	N80-10799 *	US-PATENT-APPL-SN-796690	c 07	N72-21119 *
US-PATENT-APPL-SN-767911	c 09	N78-31129 *	US-PATENT-APPL-SN-781812	c 36	N87-23960 *	US-PATENT-APPL-SN-796691	c 10	N71-26334 *
US-PATENT-APPL-SN-767912	c 27	N79-14214 *	US-PATENT-APPL-SN-781813	c 27	N87-14516 *	US-PATENT-APPL-SN-797056	c 15	N71-25975 *
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US-PATENT-APPL-SN-797210	c 28	N78-31255 *	US-PATENT-APPL-SN-814212	c 14	N72-17326 *	US-PATENT-APPL-SN-833049	c 06	N72-21094 *
US-PATENT-APPL-SN-797219	c 03	N71-33409 *	US-PATENT-APPL-SN-814378	c 25	N79-10162 *	US-PATENT-APPL-SN-833637	c 33	N79-24257 *
US-PATENT-APPL-SN-797794	c 07	N71-12396 *	US-PATENT-APPL-SN-815099	c 60	N86-24224 *	US-PATENT-APPL-SN-834257	c 32	N80-14281 *
US-PATENT-APPL-SN-797795	c 07	N71-27191 *	US-PATENT-APPL-SN-815103	c 60	N86-23283 *	US-PATENT-APPL-SN-834977	c 27	N87-23736 *
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US-PATENT-APPL-SN-798277	c 23	N71-26654 *	US-PATENT-APPL-SN-815366	c 14	N71-28994 *	US-PATENT-APPL-SN-835058	c 21	N72-22619 *
US-PATENT-APPL-SN-798976	c 52	N81-25661 *	US-PATENT-APPL-SN-815367	c 14	N71-28863 *	US-PATENT-APPL-SN-835059	c 09	N71-26130 *
US-PATENT-APPL-SN-799013	c 09	N71-28468 *	US-PATENT-APPL-SN-815760	c 15	N71-27068 *	US-PATENT-APPL-SN-835060	c 02	N71-26110 *
US-PATENT-APPL-SN-799023	c 37	N79-10421 *	US-PATENT-APPL-SN-816733	c 15	N71-27084 *	US-PATENT-APPL-SN-835146	c 15	N70-33264 *
US-PATENT-APPL-SN-799024	c 24	N78-17149 *	US-PATENT-APPL-SN-816988	c 14	N71-26199 *	US-PATENT-APPL-SN-835152	c 28	N70-38199 *
US-PATENT-APPL-SN-799025	c 32	N80-29539 *	US-PATENT-APPL-SN-817413	c 33	N79-12321 *	US-PATENT-APPL-SN-835153	c 31	N71-17680 *
US-PATENT-APPL-SN-799026	c 44	N79-11468 *	US-PATENT-APPL-SN-817415	c 74	N79-20857 *	US-PATENT-APPL-SN-835419	c 33	N80-18285 *
US-PATENT-APPL-SN-799353	c 09	N71-27232 *	US-PATENT-APPL-SN-817481	c 09	N72-11225 *	US-PATENT-APPL-SN-835544	c 33	N79-14305 *
US-PATENT-APPL-SN-799832	c 33	N79-15245 *	US-PATENT-APPL-SN-817482	c 10	N71-27338 *	US-PATENT-APPL-SN-835628	c 35	N79-14347 *
US-PATENT-APPL-SN-800193	c 37	N87-17038 *	US-PATENT-APPL-SN-817569	c 06	N69-31244 *	US-PATENT-APPL-SN-836280	c 14	N73-14428 *
US-PATENT-APPL-SN-800194	c 76	N88-14835 *	US-PATENT-APPL-SN-818349	c 21	N71-19212 *	US-PATENT-APPL-SN-836280	c 35	N75-25122 *
US-PATENT-APPL-SN-800204	c 06	N72-17094 *	US-PATENT-APPL-SN-818916	c 05	N79-17847 *	US-PATENT-APPL-SN-836367	c 09	N71-24804 *
US-PATENT-APPL-SN-800209	c 14	N73-32320 *	US-PATENT-APPL-SN-818917	c 32	N79-13214 *	US-PATENT-APPL-SN-837259	c 54	N79-24652 *
US-PATENT-APPL-SN-80029	c 74	N74-20008 *	US-PATENT-APPL-SN-819029	c 20	N82-18314 *	US-PATENT-APPL-SN-837260	c 37	N78-27423 *
US-PATENT-APPL-SN-800973	c 16	N71-24832 *	US-PATENT-APPL-SN-819599	c 15	N71-19214 *	US-PATENT-APPL-SN-837377	c 15	N71-26148 *
US-PATENT-APPL-SN-801290	c 37	N79-18318 *	US-PATENT-APPL-SN-819898	c 30	N72-17873 *	US-PATENT-APPL-SN-837378	c 15	N71-24865 *
US-PATENT-APPL-SN-801290	c 37	N80-26658 *	US-PATENT-APPL-SN-8203	c 15	N70-33180 *	US-PATENT-APPL-SN-837513	c 44	N81-29525 *
US-PATENT-APPL-SN-801290	c 37	N82-19540 *	US-PATENT-APPL-SN-820453	c 03	N72-24037 *	US-PATENT-APPL-SN-837513	c 44	N82-28780 *
US-PATENT-APPL-SN-801312	c 16	N71-15565 *	US-PATENT-APPL-SN-820498	c 89	N79-10969 *	US-PATENT-APPL-SN-837794	c 28	N80-20402 *
US-PATENT-APPL-SN-801336	c 02	N71-13422 *	US-PATENT-APPL-SN-820499	c 76	N79-23798 *	US-PATENT-APPL-SN-837794	c 28	N81-14103 *
US-PATENT-APPL-SN-801432	c 33	N78-32341 *	US-PATENT-APPL-SN-8204	c 31	N70-37981 *	US-PATENT-APPL-SN-837795	c 36	N80-14384 *
US-PATENT-APPL-SN-801452	c 44	N79-11471 *	US-PATENT-APPL-SN-820963	c 07	N71-19854 *	US-PATENT-APPL-SN-837796	c 35	N79-14345 *
US-PATENT-APPL-SN-801660	c 14	N71-26672 *	US-PATENT-APPL-SN-820964	c 15	N71-28740 *	US-PATENT-APPL-SN-837825	c 15	N71-27006 *
US-PATENT-APPL-SN-802269	c 76	N86-25269 *	US-PATENT-APPL-SN-820965	c 09	N71-13486 *	US-PATENT-APPL-SN-837830	c 02	N71-27088 *
US-PATENT-APPL-SN-802812	c 10	N72-22235 *	US-PATENT-APPL-SN-821586	c 26	N71-14354 *	US-PATENT-APPL-SN-83816	c 44	N74-14784 *
US-PATENT-APPL-SN-802813	c 15	N72-22487 *	US-PATENT-APPL-SN-821681	c 35	N78-27384 *	US-PATENT-APPL-SN-838278	c 60	N74-20836 *
US-PATENT-APPL-SN-802816	c 31	N71-16346 *	US-PATENT-APPL-SN-822039	c 06	N72-25149 *	US-PATENT-APPL-SN-838308	c 52	N80-27072 *
US-PATENT-APPL-SN-802818	c 07	N71-29065 *	US-PATENT-APPL-SN-822088	c 15	N71-27135 *	US-PATENT-APPL-SN-838336	c 44	N79-11470 *
US-PATENT-APPL-SN-802820	c 10	N71-13545 *	US-PATENT-APPL-SN-822089	c 23	N72-23695 *	US-PATENT-APPL-SN-838337	c 31	N79-17029 *
US-PATENT-APPL-SN-802948	c 31	N71-33160 *	US-PATENT-APPL-SN-822090	c 16	N71-27183 *	US-PATENT-APPL-SN-838630	c 14	N71-28993 *
US-PATENT-APPL-SN-802972	c 09	N71-26678 *	US-PATENT-APPL-SN-822518	c 09	N71-13522 *	US-PATENT-APPL-SN-838648	c 33	N87-23879 *
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US-PATENT-APPL-SN-80369	c 09	N72-22198 *	US-PATENT-APPL-SN-822534	c 09	N72-11224 *	US-PATENT-APPL-SN-838654	c 27	N86-24840 *
US-PATENT-APPL-SN-803822	c 26	N79-22271 *	US-PATENT-APPL-SN-82279	c 03	N76-32140 *	US-PATENT-APPL-SN-838655	c 27	N87-22848 *
US-PATENT-APPL-SN-803822	c 26	N80-32484 *	US-PATENT-APPL-SN-82280	c 09	N72-25262 *	US-PATENT-APPL-SN-839934	c 07	N72-20140 *
US-PATENT-APPL-SN-803823	c 44	N79-11467 *	US-PATENT-APPL-SN-823061	c 44	N79-23481 *	US-PATENT-APPL-SN-839935	c 15	N71-24895 *
US-PATENT-APPL-SN-804035	c 35	N79-14348 *	US-PATENT-APPL-SN-823566	c 74	N79-14891 *	US-PATENT-APPL-SN-839941	c 07	N71-26181 *
US-PATENT-APPL-SN-804039	c 31	N87-25491 *	US-PATENT-APPL-SN-823712	c 44	N88-14492 *	US-PATENT-APPL-SN-839963	c 27	N79-33316 *
US-PATENT-APPL-SN-804040	c 32	N87-21206 *	US-PATENT-APPL-SN-823713	c 26	N88-14179 *	US-PATENT-APPL-SN-839963	c 27	N81-14078 *
US-PATENT-APPL-SN-804172	c 28	N71-26781 *	US-PATENT-APPL-SN-824024	c 44	N79-18443 *	US-PATENT-APPL-SN-839994	c 28	N71-28915 *
US-PATENT-APPL-SN-804196	c 33	N87-28831 *	US-PATENT-APPL-SN-824042	c 23	N71-29123 *	US-PATENT-APPL-SN-84002	c 08	N73-20217 *
US-PATENT-APPL-SN-805010	c 35	N87-23944 *	US-PATENT-APPL-SN-824628	c 34	N78-17337 *	US-PATENT-APPL-SN-840176	c 28	N71-27095 *
US-PATENT-APPL-SN-805011	c 54	N88-24163 *	US-PATENT-APPL-SN-824755	c 09	N70-33182 *	US-PATENT-APPL-SN-840308	c 07	N71-33613 *
US-PATENT-APPL-SN-805012	c 27	N87-21111 *	US-PATENT-APPL-SN-825253	c 16	N69-31343 *	US-PATENT-APPL-SN-840359	c 23	N71-29125 *
US-PATENT-APPL-SN-805298	c 10	N71-25899 *	US-PATENT-APPL-SN-825258	c 26	N72-21701 *	US-PATENT-APPL-SN-840816	c 27	N87-28657 *
US-PATENT-APPL-SN-805405	c 14	N71-27323 *	US-PATENT-APPL-SN-825259	c 14	N71-26788 *	US-PATENT-APPL-SN-840870	c 15	N71-26189 *
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US-PATENT-APPL-SN-806149	c 27	N71-16223 *	US-PATENT-APPL-SN-826204	c 37	N79-10420 *	US-PATENT-APPL-SN-841278	c 33	N77-21316 *
US-PATENT-APPL-SN-806226	c 14	N71-27407 *	US-PATENT-APPL-SN-826326	c 46	N79-22679 *	US-PATENT-APPL-SN-841845	c 14	N73-32317 *
US-PATENT-APPL-SN-806440	c 51	N79-10694 *	US-PATENT-APPL-SN-82647	c 28	N72-22772 *	US-PATENT-APPL-SN-84212	c 27	N74-17283 *
US-PATENT-APPL-SN-806572	c 27	N87-25469 *	US-PATENT-APPL-SN-82648	c 12	N72-25292 *	US-PATENT-APPL-SN-842170	c 11	N70-33278 *
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US-PATENT-APPL-SN-807703	c 37	N78-27424 *	US-PATENT-APPL-SN-82658	c 30	N70-40309 *	US-PATENT-APPL-SN-84289	c 15	N73-14469 *
US-PATENT-APPL-SN-807762	c 27	N78-31233 *	US-PATENT-APPL-SN-827185	c 52	N89-16256 *	US-PATENT-APPL-SN-84290	c 05	N73-20137 *
US-PATENT-APPL-SN-808192	c 15	N71-27432 *	US-PATENT-APPL-SN-827464	c 74	N79-34011 *	US-PATENT-APPL-SN-843022	c 11	N70-33287 *
US-PATENT-APPL-SN-808193	c 31	N71-26537 *	US-PATENT-APPL-SN-827579	c 15	N71-24984 *	US-PATENT-APPL-SN-843032	c 28	N70-41818 *
US-PATENT-APPL-SN-808462	c 10	N71-27136 *	US-PATENT-APPL-SN-827597	c 26	N69-33482 *	US-PATENT-APPL-SN-843090	c 27	N79-22300 *
US-PATENT-APPL-SN-808510	c 33	N78-32338 *	US-PATENT-APPL-SN-828262	c 37	N79-14383 *	US-PATENT-APPL-SN-843251	c 03	N72-11062 *
US-PATENT-APPL-SN-808576	c 15	N71-27754 *	US-PATENT-APPL-SN-828909	c 28	N71-27094 *	US-PATENT-APPL-SN-843308	c 32	N79-14268 *
US-PATENT-APPL-SN-808577	c 32	N71-25360 *	US-PATENT-APPL-SN-828920	c 35	N74-22095 *	US-PATENT-APPL-SN-844225	c 05	N72-25120 *
US-PATENT-APPL-SN-808822	c 14	N73-16483 *	US-PATENT-APPL-SN-828921	c 09	N71-27001 *	US-PATENT-APPL-SN-844243	c 37	N75-29426 *
US-PATENT-APPL-SN-808922	c 28	N71-27585 *	US-PATENT-APPL-SN-828983	c 03	N71-24719 *	US-PATENT-APPL-SN-844315	c 35	N77-21392 *
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US-PATENT-APPL-SN-810576	c 15	N73-12492 *	US-PATENT-APPL-SN-829317	c 52	N80-18690 *	US-PATENT-APPL-SN-845807	c 15	N72-11391 *
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US-PATENT-APPL-SN-81096	c 14	N73-14427 *	US-PATENT-APPL-SN-830366	c 16	N72-13437 *	US-PATENT-APPL-SN-845991	c 14	N71-29134 *
US-PATENT-APPL-SN-811037	c 14	N71-26137 *	US-PATENT-APPL-SN-830458	c 46	N79-23555 *	US-PATENT-APPL-SN-846427	c 36	N88-14350 *
US-PATENT-APPL-SN-811038	c 14	N72-20380 *	US-PATENT-APPL-SN-830562	c 39	N80-10507 *	US-PATENT-APPL-SN-846428	c 34	N87-21255 *
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US-PATENT-APPL-SN-811542	c 21	N71-24948 *	US-PATENT-APPL-SN-830978	c 28	N71-26173 *	US-PATENT-APPL-SN-846439	c 08	N87-23631 *
US-PATENT-APPL-SN-811815	c 44	N78-31525 *	US-PATENT-APPL-SN-831118	c 08	N72-11172 *	US-PATENT-APPL-SN-846462	c 07	N87-16828 *
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US-PATENT-APPL-SN-812447	c 71	N79-20827 *	US-PATENT-APPL-SN-831371	c 31	N87-25492 *	US-PATENT-APPL-SN-847027	c 03	N70-33343 *
US-PATENT-APPL-SN-812998	c 28	N72-22769 *	US-PATENT-APPL-SN-831372	c 35	N88-30106 *	US-PATENT-APPL-SN-847276	c 37	N61-32510 *
US-PATENT-APPL-SN-812999	c 05	N71-12345 *	US-PATENT-APPL-SN-831377	c 37	N87-23982 *	US-PATENT-APPL-SN-847277	c 31	N79-28370 *
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US-PATENT-APPL-SN-813488	c 15	N71-28467 *	US-PATENT-APPL-SN-831632	c 07	N80-26298 *	US-PATENT-APPL-SN-847596	c 15	N70-10867 *
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US-PATENT-APPL-SN-848418	c 43	N79-26439 *	US-PATENT-APPL-SN-862878	c 09	N82-29330 *	US-PATENT-APPL-SN-880272	c 14	N71-27058 *
US-PATENT-APPL-SN-848419	c 43	N80-23711 *	US-PATENT-APPL-SN-862880	c 24	N79-31347 *	US-PATENT-APPL-SN-880398	c 15	N73-12487 *
US-PATENT-APPL-SN-848420	c 43	N79-25443 *	US-PATENT-APPL-SN-862921	c 31	N71-29050 *	US-PATENT-APPL-SN-880726	c 44	N80-21828 *
US-PATENT-APPL-SN-848421	c 43	N80-14423 *	US-PATENT-APPL-SN-862925	c 24	N88-18628 *	US-PATENT-APPL-SN-880727	c 35	N79-28527 *
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US-PATENT-APPL-SN-848481	c 17	N70-33283 *	US-PATENT-APPL-SN-863024	c 46	N80-14603 *	US-PATENT-APPL-SN-880729	c 35	N80-20563 *
US-PATENT-APPL-SN-848776	c 07	N72-22127 *	US-PATENT-APPL-SN-863276	c 16	N72-12440 *	US-PATENT-APPL-SN-880831	c 11	N72-20244 *
US-PATENT-APPL-SN-848793	c 43	N79-31706 *	US-PATENT-APPL-SN-863280	c 24	N72-33681 *	US-PATENT-APPL-SN-880838	c 37	N79-28549 *
US-PATENT-APPL-SN-848794	c 44	N79-24431 *	US-PATENT-APPL-SN-863636	c 15	N72-25451 *	US-PATENT-APPL-SN-880885	c 07	N72-12080 *
US-PATENT-APPL-SN-848805	c 06	N72-17095 *	US-PATENT-APPL-SN-863770	c 44	N79-18444 *	US-PATENT-APPL-SN-881039	c 09	N71-24842 *
US-PATENT-APPL-SN-848810	c 07	N72-11148 *	US-PATENT-APPL-SN-863773	c 44	N79-26475 *	US-PATENT-APPL-SN-881041	c 09	N72-22204 *
US-PATENT-APPL-SN-848811	c 10	N71-26142 *	US-PATENT-APPL-SN-863913	c 14	N71-28991 *	US-PATENT-APPL-SN-882122	c 14	N72-22438 *
US-PATENT-APPL-SN-849106	c 09	N72-22197 *	US-PATENT-APPL-SN-863914	c 09	N72-31235 *	US-PATENT-APPL-SN-882577	c 07	N71-27056 *
US-PATENT-APPL-SN-849274	c 28	N79-14228 *	US-PATENT-APPL-SN-863963	c 10	N71-26085 *	US-PATENT-APPL-SN-883090	c 44	N80-29834 *
US-PATENT-APPL-SN-84961	c 02	N70-34178 *	US-PATENT-APPL-SN-863967	c 11	N71-27036 *	US-PATENT-APPL-SN-883094	c 54	N79-24651 *
US-PATENT-APPL-SN-84962	c 21	N70-36943 *	US-PATENT-APPL-SN-864020	c 15	N72-17454 *	US-PATENT-APPL-SN-883523	c 09	N72-33204 *
US-PATENT-APPL-SN-8497	c 14	N72-11363 *	US-PATENT-APPL-SN-864039	c 15	N72-22483 *	US-PATENT-APPL-SN-883524	c 09	N72-21246 *
US-PATENT-APPL-SN-8498	c 05	N71-24729 *	US-PATENT-APPL-SN-864097	c 07	N71-33606 *	US-PATENT-APPL-SN-883961	c 25	N80-16116 *
US-PATENT-APPL-SN-850504	c 52	N81-14613 *	US-PATENT-APPL-SN-864117	c 07	N72-25171 *	US-PATENT-APPL-SN-88435	c 35	N74-15090 *
US-PATENT-APPL-SN-850504	c 52	N81-29764 *	US-PATENT-APPL-SN-8650	c 03	N72-25021 *	US-PATENT-APPL-SN-885049	c 33	N79-23345 *
US-PATENT-APPL-SN-850507	c 25	N79-14169 *	US-PATENT-APPL-SN-865106	c 09	N72-22022 *	US-PATENT-APPL-SN-885065	c 35	N79-18296 *
US-PATENT-APPL-SN-850586	c 31	N71-25434 *	US-PATENT-APPL-SN-865109	c 14	N71-28933 *	US-PATENT-APPL-SN-885066	c 33	N80-26599 *
US-PATENT-APPL-SN-850587	c 08	N72-21199 *	US-PATENT-APPL-SN-865274	c 09	N72-17155 *	US-PATENT-APPL-SN-885067	c 33	N79-28415 *
US-PATENT-APPL-SN-851298	c 15	N72-12409 *	US-PATENT-APPL-SN-865298	c 15	N72-11388 *	US-PATENT-APPL-SN-885521	c 03	N72-28025 *
US-PATENT-APPL-SN-851394	c 09	N71-24892 *	US-PATENT-APPL-SN-865329	c 15	N71-29132 *	US-PATENT-APPL-SN-885571	c 09	N71-28886 *
US-PATENT-APPL-SN-852131	c 15	N71-24836 *	US-PATENT-APPL-SN-865548	c 09	N72-21243 *	US-PATENT-APPL-SN-885594	c 15	N71-29133 *
US-PATENT-APPL-SN-852461	c 27	N89-16042 *	US-PATENT-APPL-SN-865811	c 09	N71-27053 *	US-PATENT-APPL-SN-886121	c 39	N87-25601 *
US-PATENT-APPL-SN-852466	c 37	N87-24689 *	US-PATENT-APPL-SN-865909	c 14	N72-11364 *	US-PATENT-APPL-SN-886149	c 27	N87-28656 *
US-PATENT-APPL-SN-852467	c 27	N87-24564 *	US-PATENT-APPL-SN-866442	c 25	N72-24753 *	US-PATENT-APPL-SN-887685	c 10	N72-20223 *
US-PATENT-APPL-SN-852468	c 72	N87-21661 *	US-PATENT-APPL-SN-867841	c 11	N72-22246 *	US-PATENT-APPL-SN-887698	c 09	N72-17153 *
US-PATENT-APPL-SN-852843	c 09	N72-22195 *	US-PATENT-APPL-SN-867842	c 23	N72-27728 *	US-PATENT-APPL-SN-887699	c 15	N72-17452 *
US-PATENT-APPL-SN-853349	c 35	N81-33448 *	US-PATENT-APPL-SN-867843	c 14	N71-26161 *	US-PATENT-APPL-SN-887700	c 07	N71-28980 *
US-PATENT-APPL-SN-853361	c 37	N87-22977 *	US-PATENT-APPL-SN-867851	c 15	N72-22484 *	US-PATENT-APPL-SN-887701	c 08	N71-29034 *
US-PATENT-APPL-SN-853641	c 33	N72-25913 *	US-PATENT-APPL-SN-867966	c 74	N86-33138 *	US-PATENT-APPL-SN-888362	c 33	N80-14330 *
US-PATENT-APPL-SN-853677	c 34	N79-31523 *	US-PATENT-APPL-SN-867987	c 27	N88-23894 *	US-PATENT-APPL-SN-888432	c 74	N81-17886 *
US-PATENT-APPL-SN-853679	c 35	N79-14346 *	US-PATENT-APPL-SN-868249	c 33	N80-18286 *	US-PATENT-APPL-SN-888434	c 51	N83-27569 *
US-PATENT-APPL-SN-853705	c 45	N79-12584 *	US-PATENT-APPL-SN-868445	c 14	N72-17323 *	US-PATENT-APPL-SN-889374	c 08	N72-25207 *
US-PATENT-APPL-SN-853716	c 09	N71-24904 *	US-PATENT-APPL-SN-868529	c 08	N72-22167 *	US-PATENT-APPL-SN-889375	c 10	N72-20222 *
US-PATENT-APPL-SN-853746	c 02	N72-11018 *	US-PATENT-APPL-SN-868530	c 05	N72-11084 *	US-PATENT-APPL-SN-889376	c 18	N71-26285 *
US-PATENT-APPL-SN-853763	c 07	N70-12616 *	US-PATENT-APPL-SN-868775	c 09	N72-25261 *	US-PATENT-APPL-SN-889387	c 09	N71-29035 *
US-PATENT-APPL-SN-853763	c 07	N72-33146 *	US-PATENT-APPL-SN-868775	c 09	N73-27150 *	US-PATENT-APPL-SN-889420	c 14	N72-25413 *
US-PATENT-APPL-SN-853855	c 17	N72-22530 *	US-PATENT-APPL-SN-869260	c 05	N72-20097 *	US-PATENT-APPL-SN-889422	c 09	N72-25259 *
US-PATENT-APPL-SN-853855	c 17	N72-28535 *	US-PATENT-APPL-SN-869260	c 05	N73-25125 *	US-PATENT-APPL-SN-889423	c 10	N72-22236 *
US-PATENT-APPL-SN-853856	c 16	N71-29131 *	US-PATENT-APPL-SN-870689	c 06	N72-25148 *	US-PATENT-APPL-SN-889437	c 15	N72-11392 *
US-PATENT-APPL-SN-853983	c 14	N70-33254 *	US-PATENT-APPL-SN-871207	c 23	N86-32526 *	US-PATENT-APPL-SN-889438	c 15	N72-18477 *
US-PATENT-APPL-SN-853984	c 21	N70-33181 *	US-PATENT-APPL-SN-872222	c 05	N72-27103 *	US-PATENT-APPL-SN-889478	c 08	N71-29138 *
US-PATENT-APPL-SN-854815	c 09	N71-24807 *	US-PATENT-APPL-SN-872602	c 09	N72-22200 *	US-PATENT-APPL-SN-889479	c 14	N72-17325 *
US-PATENT-APPL-SN-854920	c 15	N79-26100 *	US-PATENT-APPL-SN-872664	c 08	N70-34675 *	US-PATENT-APPL-SN-889551	c 21	N72-21624 *
US-PATENT-APPL-SN-855004	c 24	N72-11595 *	US-PATENT-APPL-SN-873045	c 14	N72-20379 *	US-PATENT-APPL-SN-889554	c 15	N72-20444 *
US-PATENT-APPL-SN-855364	c 52	N81-27783 *	US-PATENT-APPL-SN-873259	c 08	N72-21200 *	US-PATENT-APPL-SN-889555	c 09	N72-17154 *
US-PATENT-APPL-SN-855376	c 21	N70-35427 *	US-PATENT-APPL-SN-873260	c 33	N72-17948 *	US-PATENT-APPL-SN-889556	c 14	N72-18411 *
US-PATENT-APPL-SN-855879	c 27	N88-18725 *	US-PATENT-APPL-SN-873793	c 14	N72-21407 *	US-PATENT-APPL-SN-889557	c 11	N72-17183 *
US-PATENT-APPL-SN-855982	c 31	N88-14223 *	US-PATENT-APPL-SN-874177	c 11	N72-25284 *	US-PATENT-APPL-SN-889558	c 15	N72-22491 *
US-PATENT-APPL-SN-855983	c 03	N88-14083 *	US-PATENT-APPL-SN-874319	c 35	N88-23966 *	US-PATENT-APPL-SN-889583	c 15	N72-21464 *
US-PATENT-APPL-SN-856253	c 24	N74-19769 *	US-PATENT-APPL-SN-874435	c 11	N71-33612 *	US-PATENT-APPL-SN-889584	c 08	N72-31226 *
US-PATENT-APPL-SN-856258	c 05	N71-17599 *	US-PATENT-APPL-SN-874673	c 27	N82-29454 *	US-PATENT-APPL-SN-889670	c 39	N79-22537 *
US-PATENT-APPL-SN-856279	c 07	N72-21118 *	US-PATENT-APPL-SN-874674	c 27	N82-29452 *	US-PATENT-APPL-SN-889671	c 24	N81-14000 *
US-PATENT-APPL-SN-856282	c 08	N72-22166 *	US-PATENT-APPL-SN-874675	c 27	N82-29455 *	US-PATENT-APPL-SN-889671	c 24	N81-33235 *
US-PATENT-APPL-SN-856327	c 05	N72-16015 *	US-PATENT-APPL-SN-874732	c 09	N71-29139 *	US-PATENT-APPL-SN-889682	c 15	N72-25447 *
US-PATENT-APPL-SN-856328	c 14	N72-22441 *	US-PATENT-APPL-SN-874733	c 15	N71-26635 *	US-PATENT-APPL-SN-890445	c 18	N87-27713 *
US-PATENT-APPL-SN-856415	c 09	N71-26182 *	US-PATENT-APPL-SN-874958	c 31	N71-15566 *	US-PATENT-APPL-SN-890575	c 09	N87-25334 *
US-PATENT-APPL-SN-856460	c 25	N79-24073 *	US-PATENT-APPL-SN-875500	c 06	N72-25146 *	US-PATENT-APPL-SN-890577	c 27	N88-29040 *
US-PATENT-APPL-SN-856461	c 34	N79-12359 *	US-PATENT-APPL-SN-875551	c 33	N73-16918 *	US-PATENT-APPL-SN-890586	c 32	N87-15390 *
US-PATENT-APPL-SN-856462	c 34	N80-24573 *	US-PATENT-APPL-SN-875798	c 37	N88-23978 *	US-PATENT-APPL-SN-890683	c 37	N88-23981 *
US-PATENT-APPL-SN-856462	c 44	N81-24519 *	US-PATENT-APPL-SN-875799	c 34	N87-28867 *	US-PATENT-APPL-SN-890982	c 35	N88-29150 *
US-PATENT-APPL-SN-856464	c 36	N79-14362 *	US-PATENT-APPL-SN-875849	c 07	N71-33696 *	US-PATENT-APPL-SN-891243	c 44	N79-25482 *
US-PATENT-APPL-SN-856465	c 44	N80-14473 *	US-PATENT-APPL-SN-875891	c 31	N86-32589 *	US-PATENT-APPL-SN-891244	c 05	N79-24976 *
US-PATENT-APPL-SN-856466	c 72	N80-14877 *	US-PATENT-APPL-SN-87597	c 33	N74-22864 *	US-PATENT-APPL-SN-891356	c 35	N80-18359 *
US-PATENT-APPL-SN-857241	c 46	N74-23069 *	US-PATENT-APPL-SN-876299	c 44	N80-18552 *	US-PATENT-APPL-SN-891358	c 44	N80-14474 *
US-PATENT-APPL-SN-857445	c 05	N71-24728 *	US-PATENT-APPL-SN-876431	c 33	N79-24254 *	US-PATENT-APPL-SN-891370	c 20	N79-20179 *
US-PATENT-APPL-SN-857967	c 15	N72-20443 *	US-PATENT-APPL-SN-876432	c 36	N80-18372 *	US-PATENT-APPL-SN-891372	c 37	N79-22474 *
US-PATENT-APPL-SN-858596	c 35	N78-18395 *	US-PATENT-APPL-SN-876438	c 52	N79-26772 *	US-PATENT-APPL-SN-891373	c 31	N80-18231 *
US-PATENT-APPL-SN-858695	c 11	N72-22247 *	US-PATENT-APPL-SN-876440	c 51	N80-16714 *	US-PATENT-APPL-SN-891872	c 25	N82-24312 *
US-PATENT-APPL-SN-858762	c 08	N79-23097 *	US-PATENT-APPL-SN-876441	c 74	N79-20856 *	US-PATENT-APPL-SN-89209	c 09	N72-25248 *
US-PATENT-APPL-SN-858764	c 33	N79-10338 *	US-PATENT-APPL-SN-876588	c 15	N72-25452 *	US-PATENT-APPL-SN-89210	c 07	N73-26119 *
US-PATENT-APPL-SN-858765	c 33	N79-11313 *	US-PATENT-APPL-SN-876588	c 25	N74-30502 *	US-PATENT-APPL-SN-89211	c 14	N73-12446 *
US-PATENT-APPL-SN-858766	c 27	N79-14213 *	US-PATENT-APPL-SN-877445	c 23	N82-29358 *	US-PATENT-APPL-SN-89212	c 08	N72-25208 *
US-PATENT-APPL-SN-858767	c 32	N83-19968 *	US-PATENT-APPL-SN-877717	c 14	N72-27410 *	US-PATENT-APPL-SN-893382	c 34	N79-24285 *
US-PATENT-APPL-SN-858936	c 07	N80-18039 *	US-PATENT-APPL-SN-877717	c 14	N73-13417 *	US-PATENT-APPL-SN-893383	c 31	N81-27323 *
US-PATENT-APPL-SN-858950	c 35	N78-17359 *	US-PATENT-APPL-SN-877990	c 14	N72-28437 *	US-PATENT-APPL-SN-893657	c 51	N80-27067 *
US-PATENT-APPL-SN-86018	c 23	N71-30292 *	US-PATENT-APPL-SN-878253	c 25	N81-33246 *	US-PATENT-APPL-SN-893857	c 24	N81-17170 *
US-PATENT-APPL-SN-860404	c 37	N81-15364 *	US-PATENT-APPL-SN-878539	c 35	N80-20580 *	US-PATENT-APPL-SN-893857	c 24	N81-26179 *
US-PATENT-APPL-SN-860405	c 26	N79-22271 *	US-PATENT-APPL-SN-878540	c 24	N82-26384 *	US-PATENT-APPL-SN-893865	c 37	N81-24443 *
US-PATENT-APPL-SN-860406	c 24	N79-17916 *	US-PATENT-APPL-SN-878541	c 33	N81-14220 *	US-PATENT-APPL-SN-893903	c 60	N81-15706 *
US-PATENT-APPL-SN-860492	c 09	N72-20199 *	US-PATENT-APPL-SN-878542	c 33	N79-28415 *	US-PATENT-APPL-SN-894213	c 37	N80-23655 *
US-PATENT-APPL-SN-860493	c 14	N72-16283 *	US-PATENT-APPL-SN-878730	c 08	N72-22164 *	US-PATENT-APPL-SN-894541	c 54	N87-25765 *
US-PATENT-APPL-SN-860635	c 28	N72-17843 *	US-PATENT-APPL-SN-878731	c 15	N71-26162 *	US-PATENT-APPL-SN-897239	c 20	N87-10174 *
US-PATENT-APPL-SN-860750	c 08	N72-22165 *	US-PATENT-APPL-SN-878916	c 60	N87-14863 *	US-PATENT-APPL-SN-897828	c 52	N81-29763 *
US-PATENT-APPL-SN-860751	c 08	N72-18184 *	US-PATENT-APPL-SN-879757	c 33	N87-10231 *	US-PATENT-APPL-SN-897829	c 44	N79-25481 *
US-PATENT-APPL-SN-860781	c 18	N72-22567 *	US-PATENT-APPL-SN-879758	c 33	N88-23942 *	US-PATENT-APPL-SN-897830	c 35	N80-27179 *
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US-PATENT-APPL-SN-								

US-PATENT-APPL-SN-899123	c 44	N79-14528 *	US-PATENT-APPL-SN-933963	c 05	N88-28914 *	US-PATENT-APPL-SN-98640	c 09	N72-25253 *
US-PATENT-APPL-SN-899683	c 18	N87-14413 *	US-PATENT-APPL-SN-934397	c 18	N88-23827 *	US-PATENT-APPL-SN-98772	c 08	N73-12176 *
US-PATENT-APPL-SN-899828	c 32	N80-18252 *	US-PATENT-APPL-SN-934470	c 23	N87-14433 *	US-PATENT-APPL-SN-98773	c 15	N72-22486 *
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US-PATENT-APPL-SN-900842	c 32	N79-24203 *	US-PATENT-APPL-SN-93714	c 44	N82-28780 *	US-PATENT-APPL-SN-99174	c 14	N72-33377 *
US-PATENT-APPL-SN-900843	c 44	N80-20810 *	US-PATENT-APPL-SN-938293	c 32	N80-32605 *	US-PATENT-APPL-SN-99175	c 09	N72-25258 *
US-PATENT-APPL-SN-901055	c 76	N80-32245 *	US-PATENT-APPL-SN-938297	c 25	N81-14015 *	US-PATENT-APPL-SN-99198	c 31	N73-32749 *
US-PATENT-APPL-SN-901113	c 35	N87-28884 *	US-PATENT-APPL-SN-938298	c 33	N81-17348 *	US-PATENT-APPL-SN-99201	c 15	N73-25512 *
US-PATENT-APPL-SN-901114	c 76	N88-14836 *	US-PATENT-APPL-SN-938299	c 33	N81-19389 *	US-PATENT-APPL-SN-99201	c 37	N74-20063 *
US-PATENT-APPL-SN-901496	c 23	N87-23698 *	US-PATENT-APPL-SN-938300	c 37	N80-23654 *	US-PATENT-APPL-SN-99524	c 06	N72-27144 *
US-PATENT-APPL-SN-903019	c 46	N80-10709 *	US-PATENT-APPL-SN-938579	c 76	N80-32244 *	US-PATENT-APPL-SN-99901	c 37	N74-10474 *
US-PATENT-APPL-SN-904128	c 25	N88-23845 *	US-PATENT-APPL-SN-938581	c 04	N80-32359 *	US-PATENT-APPL-SN-99903	c 11	N73-12265 *
US-PATENT-APPL-SN-904132	c 02	N89-14224 *	US-PATENT-APPL-SN-938582	c 37	N80-23653 *			
US-PATENT-APPL-SN-904134	c 18	N88-26398 *	US-PATENT-APPL-SN-940409	c 14	N73-20476 *	US-PATENT-CASE-165-104.25	c 34	N87-28867 *
US-PATENT-APPL-SN-904513	c 33	N88-14270 *	US-PATENT-APPL-SN-940688	c 24	N79-24062 *	US-PATENT-CASE-165-104.26	c 34	N87-28867 *
US-PATENT-APPL-SN-904812	c 37	N88-14359 *	US-PATENT-APPL-SN-940689	c 35	N80-26866 *	US-PATENT-CASE-165-13	c 34	N87-28867 *
US-PATENT-APPL-SN-90595	c 03	N72-20031 *	US-PATENT-APPL-SN-940970	c 72	N80-27163 *	US-PATENT-CASE-165-1	c 34	N87-28867 *
US-PATENT-APPL-SN-906297	c 44	N79-14529 *	US-PATENT-APPL-SN-941711	c 24	N80-26388 *	US-PATENT-CASE-165-32	c 34	N87-28867 *
US-PATENT-APPL-SN-906298	c 76	N80-18951 *	US-PATENT-APPL-SN-942158	c 34	N88-29133 *	US-PATENT-CASE-165-41	c 34	N87-28867 *
US-PATENT-APPL-SN-906299	c 27	N80-16158 *	US-PATENT-APPL-SN-942159	c 37	N87-18817 *	US-PATENT-CASE-179-146-R	c 05	N83-27975 *
US-PATENT-APPL-SN-907421	c 37	N81-14318 *	US-PATENT-APPL-SN-94259	c 27	N70-35534 *	US-PATENT-CASE-179-179	c 05	N83-27975 *
US-PATENT-APPL-SN-907431	c 37	N81-25370 *	US-PATENT-APPL-SN-943086	c 37	N80-32717 *	US-PATENT-CASE-244-121	c 05	N83-19737 *
US-PATENT-APPL-SN-907435	c 27	N80-10358 *	US-PATENT-APPL-SN-943087	c 15	N78-32168 *	US-PATENT-CASE-244-129.4	c 05	N83-19737 *
US-PATENT-APPL-SN-907436	c 37	N80-14398 *	US-PATENT-APPL-SN-943088	c 18	N80-14183 *	US-PATENT-CASE-292-254	c 05	N83-19737 *
US-PATENT-APPL-SN-907479	c 27	N80-24438 *	US-PATENT-APPL-SN-943089	c 74	N80-21140 *	US-PATENT-CASE-356-129	c 36	N83-29680 *
US-PATENT-APPL-SN-909100	c 37	N79-28550 *	US-PATENT-APPL-SN-943346	c 34	N88-29132 *	US-PATENT-CASE-367-906	c 05	N83-27975 *
US-PATENT-APPL-SN-909235	c 07	N81-19115 *	US-PATENT-APPL-SN-943437	c 05	N72-25122 *	US-PATENT-CASE-368-10	c 35	N83-29651 *
US-PATENT-APPL-SN-909608	c 07	N81-19116 *	US-PATENT-APPL-SN-94369	c 07	N71-28965 *	US-PATENT-CASE-368-118	c 35	N83-29651 *
US-PATENT-APPL-SN-910707	c 32	N80-20448 *	US-PATENT-APPL-SN-94374	c 14	N72-25411 *	US-PATENT-CASE-368-119	c 35	N83-29651 *
US-PATENT-APPL-SN-910708	c 06	N80-18036 *	US-PATENT-APPL-SN-945040	c 37	N82-24492 *	US-PATENT-CASE-368-120	c 35	N83-29651 *
US-PATENT-APPL-SN-910793	c 44	N80-16452 *	US-PATENT-APPL-SN-945041	c 43	N80-18498 *	US-PATENT-CASE-368-6	c 35	N83-29651 *
US-PATENT-APPL-SN-910794	c 14	N81-26161 *	US-PATENT-APPL-SN-945043	c 33	N81-33403 *	US-PATENT-CASE-368-9	c 35	N83-29651 *
US-PATENT-APPL-SN-910992	c 52	N81-24711 *	US-PATENT-APPL-SN-945044	c 54	N81-26718 *			
US-PATENT-APPL-SN-91180	c 14	N70-40240 *	US-PATENT-APPL-SN-945436	c 46	N80-24906 *	US-PATENT-CLASS-165-27	c 34	N83-34221 *
US-PATENT-APPL-SN-911851	c 29	N87-18679 *	US-PATENT-APPL-SN-946990	c 28	N80-23471 *	US-PATENT-CLASS-361-90	c 33	N83-34190 *
US-PATENT-APPL-SN-912276	c 24	N81-29163 *	US-PATENT-APPL-SN-946991	c 31	N81-27324 *			
US-PATENT-APPL-SN-913432	c 18	N88-23828 *	US-PATENT-APPL-SN-946992	c 45	N80-14579 *	US-PATENT-CLASS-D12-76	c 05	N75-25914 *
US-PATENT-APPL-SN-913433	c 33	N87-15413 *	US-PATENT-APPL-SN-946994	c 44	N79-31753 *	US-PATENT-CLASS-D71-1	c 05	N74-10907 *
US-PATENT-APPL-SN-913446	c 37	N87-15465 *	US-PATENT-APPL-SN-947000	c 28	N81-15119 *			
US-PATENT-APPL-SN-914260	c 44	N79-26474 *	US-PATENT-APPL-SN-94952	c 14	N70-34158 *	US-PATENT-CLASS-100-299	c 15	N72-20446 *
US-PATENT-APPL-SN-915050	c 44	N81-12542 *	US-PATENT-APPL-SN-949886	c 33	N80-18285 *	US-PATENT-CLASS-100-8	c 33	N74-17928 *
US-PATENT-APPL-SN-91642	c 14	N72-31446 *	US-PATENT-APPL-SN-950876	c 37	N80-31790 *	US-PATENT-CLASS-101-395	c 35	N84-22930 *
US-PATENT-APPL-SN-916654	c 07	N81-29129 *	US-PATENT-APPL-SN-950877	c 52	N81-25660 *	US-PATENT-CLASS-101-407BP	c 37	N84-12491 *
US-PATENT-APPL-SN-916655	c 44	N80-14472 *	US-PATENT-APPL-SN-951422	c 51	N81-14605 *	US-PATENT-CLASS-102-101	c 28	N71-26779 *
US-PATENT-APPL-SN-917125	c 35	N89-12048 *	US-PATENT-APPL-SN-951423	c 48	N80-18667 *	US-PATENT-CLASS-102-103	c 20	N78-32179 *
US-PATENT-APPL-SN-918533	c 32	N79-23310 *	US-PATENT-APPL-SN-951828	c 37	N80-29703 *	US-PATENT-CLASS-102-105	c 33	N72-17947 *
US-PATENT-APPL-SN-918534	c 33	N80-32650 *	US-PATENT-APPL-SN-951829	c 33	N80-18287 *	US-PATENT-CLASS-102-105	c 33	N72-25911 *
US-PATENT-APPL-SN-918535	c 35	N80-18357 *	US-PATENT-APPL-SN-951830	c 28	N80-28536 *	US-PATENT-CLASS-102-105	c 33	N73-25952 *
US-PATENT-APPL-SN-918537	c 26	N80-14229 *	US-PATENT-APPL-SN-951831	c 08	N73-12175 *	US-PATENT-CLASS-102-105	c 27	N74-27037 *
US-PATENT-APPL-SN-918705	c 52	N82-33996 *	US-PATENT-APPL-SN-95189	c 74	N77-21941 *	US-PATENT-CLASS-102-105	c 24	N79-25142 *
US-PATENT-APPL-SN-920878	c 24	N78-27184 *	US-PATENT-APPL-SN-953313	c 32	N81-14187 *	US-PATENT-CLASS-102-21.6	c 46	N79-22679 *
US-PATENT-APPL-SN-920879	c 44	N79-31752 *	US-PATENT-APPL-SN-953314	c 37	N81-14319 *	US-PATENT-CLASS-102-28EB	c 28	N74-27425 *
US-PATENT-APPL-SN-921572	c 24	N87-18613 *	US-PATENT-APPL-SN-953389	c 74	N80-27185 *	US-PATENT-CLASS-102-28R	c 28	N79-11231 *
US-PATENT-APPL-SN-921573	c 37	N87-14704 *	US-PATENT-APPL-SN-953390	c 74	N80-21138 *	US-PATENT-CLASS-102-289	c 27	N82-24339 *
US-PATENT-APPL-SN-921574	c 31	N87-15327 *	US-PATENT-APPL-SN-953391	c 72	N80-33186 *	US-PATENT-CLASS-102-34.4	c 07	N72-25171 *
US-PATENT-APPL-SN-921577	c 37	N80-13785 *	US-PATENT-APPL-SN-956160	c 32	N80-18253 *	US-PATENT-CLASS-102-378	c 01	N83-35992 *
US-PATENT-APPL-SN-921626	c 25	N80-23383 *	US-PATENT-APPL-SN-956161	c 27	N79-11215 *	US-PATENT-CLASS-102-39	c 20	N78-24275 *
US-PATENT-APPL-SN-921627	c 33	N80-14332 *	US-PATENT-APPL-SN-956166	c 33	N81-19393 *	US-PATENT-CLASS-102-49.3	c 20	N77-17143 *
US-PATENT-APPL-SN-923758	c 20	N78-27176 *	US-PATENT-APPL-SN-956168	c 27	N81-25209 *	US-PATENT-CLASS-102-49.5	c 31	N71-15687 *
US-PATENT-APPL-SN-923758	c 20	N80-10278 *	US-PATENT-APPL-SN-956629	c 35	N80-26635 *	US-PATENT-CLASS-102-49.5	c 15	N71-22874 *
US-PATENT-APPL-SN-924398	c 14	N87-25344 *	US-PATENT-APPL-SN-957452	c 32	N80-24510 *	US-PATENT-CLASS-102-49.5	c 31	N71-23008 *
US-PATENT-APPL-SN-924399	c 76	N88-24545 *	US-PATENT-APPL-SN-958573	c 25	N80-20334 *	US-PATENT-CLASS-102-49.5	c 31	N73-14853 *
US-PATENT-APPL-SN-924467	c 23	N88-24692 *	US-PATENT-APPL-SN-958575	c 27	N80-24437 *	US-PATENT-CLASS-102-49.7	c 28	N73-24784 *
US-PATENT-APPL-SN-924472	c 32	N87-18692 *	US-PATENT-APPL-SN-961831	c 33	N81-25299 *	US-PATENT-CLASS-102-49.7	c 20	N78-24275 *
US-PATENT-APPL-SN-924474	c 23	N88-26404 *	US-PATENT-APPL-SN-961832	c 37	N81-24442 *	US-PATENT-CLASS-102-49.8	c 28	N73-24784 *
US-PATENT-APPL-SN-925189	c 76	N88-24544 *	US-PATENT-APPL-SN-961833	c 37	N82-21587 *	US-PATENT-CLASS-102-49	c 33	N70-36846 *
US-PATENT-APPL-SN-9251	c 03	N70-34646 *	US-PATENT-APPL-SN-964009	c 02	N80-20224 *	US-PATENT-CLASS-102-49	c 28	N78-38181 *
US-PATENT-APPL-SN-927972	c 74	N89-14078 *	US-PATENT-APPL-SN-964754	c 33	N80-20487 *	US-PATENT-CLASS-102-49	c 03	N70-39930 *
US-PATENT-APPL-SN-927987	c 62	N87-19021 *	US-PATENT-APPL-SN-964754	c 44	N81-29524 *	US-PATENT-CLASS-102-49	c 15	N70-41679 *
US-PATENT-APPL-SN-927992	c 37	N87-18818 *	US-PATENT-APPL-SN-965367	c 33	N81-14221 *	US-PATENT-CLASS-102-49	c 28	N70-41967 *
US-PATENT-APPL-SN-928128	c 44	N80-18551 *	US-PATENT-APPL-SN-965368	c 74	N81-17888 *	US-PATENT-CLASS-102-49	c 31	N71-10582 *
US-PATENT-APPL-SN-928129	c 35	N80-14371 *	US-PATENT-APPL-SN-969755	c 05	N81-19087 *	US-PATENT-CLASS-102-49	c 15	N71-13789 *
US-PATENT-APPL-SN-928130	c 35	N80-20559 *	US-PATENT-APPL-SN-969756	c 37	N81-14317 *	US-PATENT-CLASS-102-49	c 31	N71-15692 *
US-PATENT-APPL-SN-928131	c 09	N79-31228 *	US-PATENT-APPL-SN-969757	c 24	N84-16262 *	US-PATENT-CLASS-102-49	c 31	N71-17730 *
US-PATENT-APPL-SN-928133	c 44	N80-18550 *	US-PATENT-APPL-SN-969759	c 25	N82-11144 *	US-PATENT-CLASS-102-504	c 15	N82-24272 *
US-PATENT-APPL-SN-928137	c 52	N80-23969 *	US-PATENT-APPL-SN-969760	c 39	N81-25400 *	US-PATENT-CLASS-102-50	c 31	N71-24750 *
US-PATENT-APPL-SN-929083	c 36	N80-16321 *	US-PATENT-APPL-SN-969761	c 32	N82-12297 *	US-PATENT-CLASS-102-56R	c 02	N81-14968 *
US-PATENT-APPL-SN-929084	c 37	N81-19455 *	US-PATENT-APPL-SN-969762	c 33	N82-29539 *	US-PATENT-CLASS-102-70.2A	c 28	N74-27425 *
US-PATENT-APPL-SN-929086	c 24	N81-13999 *	US-PATENT-APPL-SN-971112	c 21	N70-34539 *	US-PATENT-CLASS-102-70.2R	c 19	N74-15089 *
US-PATENT-APPL-SN-929087	c 35	N80-28687 *	US-PATENT-APPL-SN-971473	c 23	N81-29160 *	US-PATENT-CLASS-102-70.2	c 09	N71-18599 *
US-PATENT-APPL-SN-929088	c 74	N80-24149 *	US-PATENT-APPL-SN-971474	c 20	N82-18314 *	US-PATENT-CLASS-102-70.2R	c 28	N74-27425 *
US-PATENT-APPL-SN-929862	c 02	N89-12551 *	US-PATENT-APPL-SN-971475	c 27	N81-24257 *	US-PATENT-CLASS-102-70R	c 20	N78-24275 *
US-PATENT-APPL-SN-929865	c 18	N89-12621 *	US-PATENT-APPL-SN-971596	c 27	N80-32516 *	US-PATENT-CLASS-102-90	c 15	N74-27360 *
US-PATENT-APPL-SN-929869	c 35	N87-23941 *	US-PATENT-APPL-SN-972252	c 35	N81-33448 *	US-PATENT-CLASS-102-92.1	c 02	N81-14968 *
US-PATENT-APPL-SN-929875	c 18	N88-28958 *	US-PATENT-APPL-SN-97343	c 10	N72-27246 *	US-PATENT-CLASS-102-95	c 11	N73-32152 *
US-PATENT-APPL-SN-930217	c 25	N98-24732 *	US-PATENT-APPL-SN-974292	c 26	N80-23419 *	US-PATENT-CLASS-102-99	c 28	N77-10213 *
US-PATENT-APPL-SN-931090	c 37	N80-26658 *	US-PATENT-APPL-SN-974471	c 32	N81-14185 *	US-PATENT-CLASS-103.5R	c 04	N73-27052 *
US-PATENT-APPL-SN-931090	c 37	N82-19540 *	US-PATENT-APPL-SN-974472	c 37	N81-15363 *	US-PATENT-CLASS-103-1	c 26	N71-21824 *
US-PATENT-APPL-SN-931217	c 37	N80-32716 *	US-PATENT-APPL-SN-974473	c 60	N81-27814 *	US-PATENT-CLASS-103-37	c 28	N71-14058 *
US-PATENT-APPL-SN-931218	c 20	N80-18097 *	US-PATENT-APPL-SN-974474	c 25	N81-19242 *	US-PATENT-CLASS-103-48	c 15	N71-24042 *
US-PATENT-APPL-SN-933186	c 27	N80-32515 *	US-PATENT-APPL-SN-974475	c 33	N81-17349 *	US-PATENT-CLASS-104-DIG.4	c 44	N84-23019 *
US-PATENT-APPL-SN-93329	c 09	N73-26195 *	US-PATENT-APPL-SN-974476	c 52	N81-14613 *	US-PATENT-CLASS-104-138R	c 85	N74-34672 *
US-PATENT-APPL-SN-933941	c 33	N89-14385 *	US-PATENT-APPL-SN-97472	c 14	N73-28487 *	US-PATENT-CLASS-104-139	c 05	N71-28619 *
US-PATENT-APPL-SN-933961	c 76	N87-29360 *	US-PATENT-APPL-SN-97829	c 06	N73-13129 *	US-PATENT-CLASS-104-172.1	c 18	N88-26398 *
US-PATENT-APPL-SN-933962	c 25	N88-29002 *	US-PATENT-AP					

US-PATENT-CLASS-104-23FS	c 85	N74-34672 *	US-PATENT-CLASS-114-16.6	c 37	N76-22540 *	US-PATENT-CLASS-118-300	c 71	N84-16940 *
US-PATENT-CLASS-104-281	c 37	N85-20337 *	US-PATENT-CLASS-114-66.5	c 12	N70-33305 *	US-PATENT-CLASS-118-308	c 17	N71-24911 *
US-PATENT-CLASS-104-282	c 37	N83-32067 *	US-PATENT-CLASS-114-67R	c 02	N88-14071 *	US-PATENT-CLASS-118-313	c 51	N77-27677 *
US-PATENT-CLASS-104-284	c 37	N85-20337 *	US-PATENT-CLASS-115-103.5	c 51	N75-13502 *	US-PATENT-CLASS-118-320	c 37	N82-24492 *
US-PATENT-CLASS-104-290	c 37	N83-32067 *	US-PATENT-CLASS-116-DIG 43	c 02	N89-12551 *	US-PATENT-CLASS-118-423	c 37	N82-12441 *
US-PATENT-CLASS-104-35	c 18	N88-26398 *	US-PATENT-CLASS-116-114.5	c 35	N75-25122 *	US-PATENT-CLASS-118-43	c 25	N75-29192 *
US-PATENT-CLASS-104-49	c 18	N88-26398 *	US-PATENT-CLASS-116-114AH	c 14	N72-25411 *	US-PATENT-CLASS-118-48	c 25	N75-26043 *
US-PATENT-CLASS-104-83	c 37	N82-21587 *	US-PATENT-CLASS-116-114AH	c 35	N75-33367 *	US-PATENT-CLASS-118-49.1	c 15	N72-32487 *
US-PATENT-CLASS-105-1A	c 37	N82-21587 *	US-PATENT-CLASS-116-117	c 14	N70-42074 *	US-PATENT-CLASS-118-49.1	c 31	N75-12161 *
US-PATENT-CLASS-105-161	c 43	N79-26439 *	US-PATENT-CLASS-116-265	c 02	N89-12551 *	US-PATENT-CLASS-118-49.1	c 25	N75-26043 *
US-PATENT-CLASS-105-171	c 37	N82-21587 *	US-PATENT-CLASS-117-104	c 18	N71-26100 *	US-PATENT-CLASS-118-49.5	c 09	N71-26701 *
US-PATENT-CLASS-105-180	c 37	N82-21587 *	US-PATENT-CLASS-117-105.2	c 37	N74-11301 *	US-PATENT-CLASS-118-49	c 25	N79-28253 *
US-PATENT-CLASS-105-2R	c 85	N82-33288 *	US-PATENT-CLASS-117-105.2	c 24	N75-33181 *	US-PATENT-CLASS-118-50.1	c 71	N84-16940 *
US-PATENT-CLASS-105-218R	c 37	N82-21587 *	US-PATENT-CLASS-117-105.5	c 15	N73-32360 *	US-PATENT-CLASS-118-50.1	c 36	N84-22944 *
US-PATENT-CLASS-106-1.2	c 44	N79-31752 *	US-PATENT-CLASS-117-105	c 15	N73-32360 *	US-PATENT-CLASS-118-500	c 37	N78-17383 *
US-PATENT-CLASS-106-13	c 23	N75-14834 *	US-PATENT-CLASS-117-106A	c 70	N74-13436 *	US-PATENT-CLASS-118-500	c 37	N82-12441 *
US-PATENT-CLASS-106-15FP	c 27	N74-27037 *	US-PATENT-CLASS-117-106A	c 37	N75-15992 *	US-PATENT-CLASS-118-500	c 37	N82-24492 *
US-PATENT-CLASS-106-15FP	c 27	N76-24405 *	US-PATENT-CLASS-117-106A	c 25	N75-26043 *	US-PATENT-CLASS-118-500	c 71	N84-16940 *
US-PATENT-CLASS-106-15FP	c 24	N78-15180 *	US-PATENT-CLASS-117-106	c 33	N71-14032 *	US-PATENT-CLASS-118-503	c 37	N82-24492 *
US-PATENT-CLASS-106-15R	c 23	N75-14834 *	US-PATENT-CLASS-117-107.2	c 25	N75-26043 *	US-PATENT-CLASS-118-505	c 37	N82-24492 *
US-PATENT-CLASS-106-15	c 18	N71-14014 *	US-PATENT-CLASS-117-107	c 15	N72-25447 *	US-PATENT-CLASS-118-50	c 37	N78-17383 *
US-PATENT-CLASS-106-15	c 18	N71-15469 *	US-PATENT-CLASS-117-107	c 76	N79-16678 *	US-PATENT-CLASS-118-50	c 37	N81-33482 *
US-PATENT-CLASS-106-18.16	c 27	N82-16238 *	US-PATENT-CLASS-117-119	c 18	N71-16105 *	US-PATENT-CLASS-118-50	c 71	N84-16940 *
US-PATENT-CLASS-106-18.24	c 27	N82-16238 *	US-PATENT-CLASS-117-119	c 76	N79-16678 *	US-PATENT-CLASS-118-52	c 37	N81-33482 *
US-PATENT-CLASS-106-197	c 25	N82-29370 *	US-PATENT-CLASS-117-124C	c 15	N72-25452 *	US-PATENT-CLASS-118-57	c 71	N84-16940 *
US-PATENT-CLASS-106-1	c 44	N79-31752 *	US-PATENT-CLASS-117-124F	c 23	N75-14834 *	US-PATENT-CLASS-118-624	c 36	N84-22944 *
US-PATENT-CLASS-106-209	c 05	N72-25120 *	US-PATENT-CLASS-117-126GM	c 37	N75-26371 *	US-PATENT-CLASS-118-62	c 71	N84-16940 *
US-PATENT-CLASS-106-286	c 18	N72-22566 *	US-PATENT-CLASS-117-126GR	c 27	N74-23125 *	US-PATENT-CLASS-118-641	c 36	N84-22944 *
US-PATENT-CLASS-106-287SB	c 23	N75-14834 *	US-PATENT-CLASS-117-126R	c 37	N75-26371 *	US-PATENT-CLASS-118-6	c 51	N77-27677 *
US-PATENT-CLASS-106-288B	c 18	N72-22566 *	US-PATENT-CLASS-117-129	c 37	N74-21063 *	US-PATENT-CLASS-118-7	c 51	N77-27677 *
US-PATENT-CLASS-106-292	c 18	N72-17532 *	US-PATENT-CLASS-117-129	c 27	N75-27160 *	US-PATENT-CLASS-118-9	c 51	N77-27677 *
US-PATENT-CLASS-106-292	c 27	N77-30237 *	US-PATENT-CLASS-117-130R	c 15	N73-32360 *	US-PATENT-CLASS-119-15	c 11	N71-22875 *
US-PATENT-CLASS-106-296	c 18	N71-26772 *	US-PATENT-CLASS-117-132B	c 27	N74-23125 *	US-PATENT-CLASS-119-17	c 51	N81-32829 *
US-PATENT-CLASS-106-296	c 27	N77-30237 *	US-PATENT-CLASS-117-132	c 06	N72-25150 *	US-PATENT-CLASS-119-18	c 51	N81-32829 *
US-PATENT-CLASS-106-296	c 24	N79-14156 *	US-PATENT-CLASS-117-135.5	c 23	N75-14834 *	US-PATENT-CLASS-119-29	c 51	N78-27733 *
US-PATENT-CLASS-106-299	c 18	N72-17532 *	US-PATENT-CLASS-117-138.8R	c 15	N73-32360 *	US-PATENT-CLASS-119-51.11	c 35	N78-19466 *
US-PATENT-CLASS-106-299	c 27	N77-30237 *	US-PATENT-CLASS-117-151	c 15	N73-32360 *	US-PATENT-CLASS-119-51.13	c 51	N74-15778 *
US-PATENT-CLASS-106-306	c 24	N76-24363 *	US-PATENT-CLASS-117-152	c 15	N72-25452 *	US-PATENT-CLASS-119-51R	c 51	N74-15778 *
US-PATENT-CLASS-106-39.5	c 27	N78-19302 *	US-PATENT-CLASS-117-16R	c 15	N72-25452 *	US-PATENT-CLASS-119-52AF	c 51	N74-15778 *
US-PATENT-CLASS-106-39R	c 18	N73-14584 *	US-PATENT-CLASS-117-16OR	c 15	N73-32360 *	US-PATENT-CLASS-119-54	c 51	N74-15778 *
US-PATENT-CLASS-106-39	c 26	N72-28762 *	US-PATENT-CLASS-117-161P	c 06	N73-27980 *	US-PATENT-CLASS-119-72.5	c 35	N78-19466 *
US-PATENT-CLASS-106-40	c 18	N71-22998 *	US-PATENT-CLASS-117-161UA	c 25	N75-12087 *	US-PATENT-CLASS-119-96	c 05	N71-28619 *
US-PATENT-CLASS-106-43	c 27	N78-17206 *	US-PATENT-CLASS-117-161UN	c 06	N73-27980 *	US-PATENT-CLASS-121-38	c 15	N70-35409 *
US-PATENT-CLASS-106-43	c 37	N81-25371 *	US-PATENT-CLASS-117-161UN	c 27	N74-23125 *	US-PATENT-CLASS-121-38	c 02	N71-29128 *
US-PATENT-CLASS-106-46	c 26	N72-28762 *	US-PATENT-CLASS-117-161UN	c 25	N75-12087 *	US-PATENT-CLASS-122-32	c 33	N72-20915 *
US-PATENT-CLASS-106-48	c 27	N75-27160 *	US-PATENT-CLASS-117-161UZ	c 25	N75-12087 *	US-PATENT-CLASS-122-366	c 34	N85-29180 *
US-PATENT-CLASS-106-48	c 27	N78-32260 *	US-PATENT-CLASS-117-161	c 06	N72-25150 *	US-PATENT-CLASS-122-366	c 34	N86-27593 *
US-PATENT-CLASS-106-50	c 27	N82-29452 *	US-PATENT-CLASS-117-2R	c 32	N74-27612 *	US-PATENT-CLASS-122-366	c 34	N88-29133 *
US-PATENT-CLASS-106-50	c 27	N82-29454 *	US-PATENT-CLASS-117-200	c 09	N72-25259 *	US-PATENT-CLASS-122-366	c 34	N89-14392 *
US-PATENT-CLASS-106-50	c 37	N82-29455 *	US-PATENT-CLASS-117-201	c 15	N69-21460 *	US-PATENT-CLASS-122-4D	c 25	N82-11144 *
US-PATENT-CLASS-106-52	c 37	N74-21063 *	US-PATENT-CLASS-117-201	c 18	N71-16046 *	US-PATENT-CLASS-123-DIG 12	c 37	N76-18457 *
US-PATENT-CLASS-106-52	c 27	N82-29451 *	US-PATENT-CLASS-117-201	c 03	N72-24037 *	US-PATENT-CLASS-123-DIG 12	c 44	N78-33526 *
US-PATENT-CLASS-106-52	c 27	N82-29452 *	US-PATENT-CLASS-117-201	c 25	N75-26043 *	US-PATENT-CLASS-123-DIG 12	c 28	N80-10374 *
US-PATENT-CLASS-106-52	c 27	N82-29454 *	US-PATENT-CLASS-117-211	c 15	N72-25447 *	US-PATENT-CLASS-123-DIG 8	c 37	N77-31497 *
US-PATENT-CLASS-106-52	c 27	N82-29455 *	US-PATENT-CLASS-117-212	c 09	N71-27075 *	US-PATENT-CLASS-123-1A	c 44	N76-29700 *
US-PATENT-CLASS-106-54	c 27	N75-27160 *	US-PATENT-CLASS-117-212	c 15	N71-29032 *	US-PATENT-CLASS-123-1A	c 44	N78-33526 *
US-PATENT-CLASS-106-54	c 27	N76-22377 *	US-PATENT-CLASS-117-212	c 26	N72-28762 *	US-PATENT-CLASS-123-102	c 11	N72-20244 *
US-PATENT-CLASS-106-54	c 27	N76-23426 *	US-PATENT-CLASS-117-217	c 15	N72-25447 *	US-PATENT-CLASS-123-119A	c 37	N77-31497 *
US-PATENT-CLASS-106-54	c 27	N78-32260 *	US-PATENT-CLASS-117-217	c 26	N72-28762 *	US-PATENT-CLASS-123-119E	c 37	N76-18457 *
US-PATENT-CLASS-106-54	c 27	N82-29452 *	US-PATENT-CLASS-117-21	c 18	N69-39895 *	US-PATENT-CLASS-123-120	c 37	N76-18457 *
US-PATENT-CLASS-106-54	c 27	N82-29454 *	US-PATENT-CLASS-117-224	c 15	N71-28582 *	US-PATENT-CLASS-123-121	c 37	N76-18457 *
US-PATENT-CLASS-106-55	c 18	N73-14584 *	US-PATENT-CLASS-117-228	c 06	N73-27980 *	US-PATENT-CLASS-123-122AB	c 28	N72-22772 *
US-PATENT-CLASS-106-58	c 18	N73-14584 *	US-PATENT-CLASS-117-234	c 76	N79-16678 *	US-PATENT-CLASS-123-122AB	c 37	N77-31497 *
US-PATENT-CLASS-106-63	c 18	N73-14584 *	US-PATENT-CLASS-117-235	c 76	N79-16678 *	US-PATENT-CLASS-123-122E	c 07	N77-23106 *
US-PATENT-CLASS-106-65	c 27	N78-19302 *	US-PATENT-CLASS-117-237	c 76	N79-16678 *	US-PATENT-CLASS-123-122E	c 37	N78-10467 *
US-PATENT-CLASS-106-73.5	c 27	N78-19302 *	US-PATENT-CLASS-117-239	c 76	N79-16678 *	US-PATENT-CLASS-123-148CB	c 33	N77-28385 *
US-PATENT-CLASS-106-74	c 18	N69-39979 *	US-PATENT-CLASS-117-240	c 76	N79-16678 *	US-PATENT-CLASS-123-148DC	c 37	N79-11405 *
US-PATENT-CLASS-106-74	c 24	N79-31347 *	US-PATENT-CLASS-117-33.3	c 70	N74-13436 *	US-PATENT-CLASS-123-148E	c 33	N77-28385 *
US-PATENT-CLASS-106-84	c 18	N71-24183 *	US-PATENT-CLASS-117-35R	c 06	N73-13128 *	US-PATENT-CLASS-123-148E	c 37	N79-11405 *
US-PATENT-CLASS-106-84	c 18	N71-24184 *	US-PATENT-CLASS-117-35	c 32	N79-19186 *	US-PATENT-CLASS-123-179R	c 28	N80-10374 *
US-PATENT-CLASS-106-84	c 18	N72-22566 *	US-PATENT-CLASS-117-37	c 15	N72-25452 *	US-PATENT-CLASS-123-193-P	c 37	N88-23981 *
US-PATENT-CLASS-106-84	c 18	N72-23581 *	US-PATENT-CLASS-117-38	c 24	N75-33181 *	US-PATENT-CLASS-123-197R	c 37	N83-36483 *
US-PATENT-CLASS-106-84	c 24	N79-14156 *	US-PATENT-CLASS-117-43	c 31	N79-21227 *	US-PATENT-CLASS-123-37	c 37	N77-31497 *
US-PATENT-CLASS-106-84	c 24	N79-31347 *	US-PATENT-CLASS-117-45	c 74	N74-20008 *	US-PATENT-CLASS-123-3	c 44	N76-18642 *
US-PATENT-CLASS-106-88	c 18	N71-16124 *	US-PATENT-CLASS-117-46FS	c 24	N75-33181 *	US-PATENT-CLASS-123-3	c 44	N76-29700 *
US-PATENT-CLASS-108-136	c 09	N75-12968 *	US-PATENT-CLASS-117-46	c 15	N71-16077 *	US-PATENT-CLASS-123-3	c 44	N77-10636 *
US-PATENT-CLASS-108-3	c 54	N88-24163 *	US-PATENT-CLASS-117-47R	c 15	N72-25452 *	US-PATENT-CLASS-123-3	c 37	N77-31497 *
US-PATENT-CLASS-108-7	c 54	N88-24163 *	US-PATENT-CLASS-117-50	c 15	N71-15610 *	US-PATENT-CLASS-123-3	c 44	N78-33526 *
US-PATENT-CLASS-109-49.5	c 31	N81-19343 *	US-PATENT-CLASS-117-62	c 15	N72-25447 *	US-PATENT-CLASS-123-3	c 28	N80-10374 *
US-PATENT-CLASS-109-58.5	c 31	N81-19343 *	US-PATENT-CLASS-117-62	c 15	N72-25452 *	US-PATENT-CLASS-123-41.33	c 07	N77-23106 *
US-PATENT-CLASS-110-186	c 25	N84-16276 *	US-PATENT-CLASS-117-65.2	c 18	N71-10772 *	US-PATENT-CLASS-123-41.33	c 37	N78-10467 *
US-PATENT-CLASS-110-218	c 31	N81-15154 *	US-PATENT-CLASS-117-66	c 15	N73-32360 *	US-PATENT-CLASS-123-59E	c 37	N77-31497 *
US-PATENT-CLASS-110-229	c 31	N81-15154 *	US-PATENT-CLASS-117-69	c 18	N70-36400 *	US-PATENT-CLASS-123-78E	c 37	N83-36483 *
US-PATENT-CLASS-110-232	c 31	N81-15154 *	US-PATENT-CLASS-117-69	c 15	N71-16075 *	US-PATENT-CLASS-123-89A	c 37	N76-18457 *
US-PATENT-CLASS-110-234	c 25	N82-11144 *	US-PATENT-CLASS-117-6	c 14	N71-20461 *	US-PATENT-CLASS-124-11R	c 75	N76-17951 *
US-PATENT-CLASS-110-245	c 25	N82-11144 *	US-PATENT-CLASS-117-6	c 27	N81-15104 *	US-PATENT-CLASS-124-1	c 75	N76-17951 *
US-PATENT-CLASS-110-255	c 25	N82-11144 *	US-PATENT-CLASS-117-72	c 35	N75-25122 *	US-PATENT-CLASS-124-56	c 18	N86-20469 *
US-PATENT-CLASS-110-262	c 25	N84-16276 *	US-PATENT-CLASS-117-8.5	c 24	N75-33181 *	US-PATENT-CLASS-124-6	c 09	N77-19076 *
US-PATENT-CLASS-110-263	c 25	N84-16276 *	US-PATENT-CLASS-117-93.1GD	c 25	N75-12087 *	US-PATENT-CLASS-125-13R	c 37	N85-21650 *
US-PATENT-CLASS-110-265	c 25	N84-16276 *	US-PATENT-CLASS-117-93.16D	c 15	N72-25447 *	US-PATENT-CLASS-125-15	c 37	N85-21650 *
US-PATENT-CLASS-110-266	c 25	N82-11144 *	US-PATENT-CLASS-117-93.3	c 15	N72-25452 *	US-PATENT-CLASS-125-1	c 46	N74-23069 *
US-PATENT-CLASS-110-343	c 31	N81-15154 *	US-PATENT-CLASS-117-93.3	c 37	N75-15992 *	US-PATENT-CLASS-125-20	c 31	N83-27058 *
US-PATENT-CLASS-110-347	c 31	N81-15154 *	US-PATENT-CLASS-117-95	c 24	N74-19769 *	US-PATENT-CLASS-125-21	c 37	N80-29703 *
US-PATENT-CLASS-112-402	c 18	N71-26285 *	US-PATENT-CLASS-117-95	c 36	N75-15029 *	US-PATENT-CLASS-125-23R	c 76	N80-18951 *
US-PATENT-CLASS-113-116	c 15	N71-15597 *	US-PATENT-CLASS-117-97	c 36	N75-15029 *	US-PATENT-CLASS-125-23R	c 37	N82-32730 *
US-PATENT-CLASS-114-122	c 02	N73-26006 *	US-PATENT-CLASS-118-11	c 15	N71-17647 *			



US-PATENT-CLASS-125-3	c 46	N74-23069 *	US-PATENT-CLASS-128-1R	c 52	N84-11744 *	US-PATENT-CLASS-128-24A	c 05	N73-27062 *
US-PATENT-CLASS-126-DIG.1	c 44	N85-30474 *	US-PATENT-CLASS-128-142.2	c 54	N76-24900 *	US-PATENT-CLASS-128-24A	c 54	N75-27760 *
US-PATENT-CLASS-126-263	c 44	N77-32581 *	US-PATENT-CLASS-128-142.5	c 05	N71-11190 *	US-PATENT-CLASS-128-24	c 05	N71-24738 *
US-PATENT-CLASS-126-263	c 44	N78-17460 *	US-PATENT-CLASS-128-142.5	c 05	N71-11203 *	US-PATENT-CLASS-128-25R	c 37	N74-18127 *
US-PATENT-CLASS-126-263	c 44	N80-20808 *	US-PATENT-CLASS-128-142.5	c 05	N71-17599 *	US-PATENT-CLASS-128-25	c 05	N71-24738 *
US-PATENT-CLASS-126-263	c 35	N85-29214 *	US-PATENT-CLASS-128-142.5	c 05	N72-20096 *	US-PATENT-CLASS-128-26	c 52	N76-19785 *
US-PATENT-CLASS-126-270	c 09	N70-40234 *	US-PATENT-CLASS-128-142.5	c 05	N73-25125 *	US-PATENT-CLASS-128-272	c 15	N71-24835 *
US-PATENT-CLASS-126-270	c 03	N70-41580 *	US-PATENT-CLASS-128-142.7	c 54	N78-32721 *	US-PATENT-CLASS-128-272	c 52	N79-14749 *
US-PATENT-CLASS-126-270	c 34	N74-23039 *	US-PATENT-CLASS-128-142R	c 54	N80-10799 *	US-PATENT-CLASS-128-275	c 15	N71-24835 *
US-PATENT-CLASS-126-270	c 44	N76-14595 *	US-PATENT-CLASS-128-145.8	c 54	N75-27761 *	US-PATENT-CLASS-128-275	c 52	N81-29763 *
US-PATENT-CLASS-126-270	c 44	N76-23675 *	US-PATENT-CLASS-128-15R	c 54	N84-16803 *	US-PATENT-CLASS-128-276	c 52	N80-14684 *
US-PATENT-CLASS-126-270	c 44	N76-24696 *	US-PATENT-CLASS-128-191R	c 25	N74-12813 *	US-PATENT-CLASS-128-276	c 52	N80-18690 *
US-PATENT-CLASS-126-270	c 35	N77-20401 *	US-PATENT-CLASS-128-191R	c 54	N80-10799 *	US-PATENT-CLASS-128-280	c 24	N82-29362 *
US-PATENT-CLASS-126-270	c 44	N77-32582 *	US-PATENT-CLASS-128-1	c 05	N70-41819 *	US-PATENT-CLASS-128-283	c 05	N69-23192 *
US-PATENT-CLASS-126-270	c 44	N78-15560 *	US-PATENT-CLASS-128-1	c 05	N71-20268 *	US-PATENT-CLASS-128-283	c 24	N82-29362 *
US-PATENT-CLASS-126-270	c 44	N78-19599 *	US-PATENT-CLASS-128-2.05A	c 52	N74-26626 *	US-PATENT-CLASS-128-284	c 24	N82-29362 *
US-PATENT-CLASS-126-270	c 44	N78-31526 *	US-PATENT-CLASS-128-2.05A	c 54	N75-13531 *	US-PATENT-CLASS-128-285	c 24	N82-29362 *
US-PATENT-CLASS-126-270	c 44	N79-11471 *	US-PATENT-CLASS-128-2.05E	c 52	N74-27566 *	US-PATENT-CLASS-128-288	c 24	N82-29362 *
US-PATENT-CLASS-126-270	c 44	N79-14526 *	US-PATENT-CLASS-128-2.05E	c 52	N76-29896 *	US-PATENT-CLASS-128-291	c 24	N82-29362 *
US-PATENT-CLASS-126-270	c 44	N79-23481 *	US-PATENT-CLASS-128-2.05F	c 14	N73-32326 *	US-PATENT-CLASS-128-295	c 05	N73-22093 *
US-PATENT-CLASS-126-270	c 44	N79-24432 *	US-PATENT-CLASS-128-2.05P	c 54	N75-13531 *	US-PATENT-CLASS-128-295	c 52	N81-24711 *
US-PATENT-CLASS-126-271	c 44	N77-32581 *	US-PATENT-CLASS-128-2.05R	c 05	N73-27941 *	US-PATENT-CLASS-128-295	c 52	N81-28740 *
US-PATENT-CLASS-126-271	c 44	N76-14602 *	US-PATENT-CLASS-128-2.05R	c 52	N76-29895 *	US-PATENT-CLASS-128-296	c 24	N82-29362 *
US-PATENT-CLASS-126-271	c 44	N76-22657 *	US-PATENT-CLASS-128-2.05R	c 52	N79-10724 *	US-PATENT-CLASS-128-29	c 05	N70-39922 *
US-PATENT-CLASS-126-271	c 44	N76-24696 *	US-PATENT-CLASS-128-2.05S	c 52	N74-26626 *	US-PATENT-CLASS-128-2	c 05	N73-27062 *
US-PATENT-CLASS-126-271	c 35	N77-20401 *	US-PATENT-CLASS-128-2.05T	c 52	N74-12778 *	US-PATENT-CLASS-128-303B	c 52	N83-25346 *
US-PATENT-CLASS-126-271	c 44	N77-32582 *	US-PATENT-CLASS-128-2.05V	c 35	N76-24525 *	US-PATENT-CLASS-128-303R	c 52	N77-28716 *
US-PATENT-CLASS-126-271	c 44	N78-10554 *	US-PATENT-CLASS-128-2.05Z	c 54	N75-27760 *	US-PATENT-CLASS-128-305	c 05	N73-27062 *
US-PATENT-CLASS-126-271	c 44	N78-17460 *	US-PATENT-CLASS-128-2.05Z	c 52	N79-18580 *	US-PATENT-CLASS-128-305	c 52	N75-33640 *
US-PATENT-CLASS-126-271	c 44	N78-31525 *	US-PATENT-CLASS-128-2.05	c 05	N70-41329 *	US-PATENT-CLASS-128-305	c 52	N78-14773 *
US-PATENT-CLASS-126-271	c 44	N78-31526 *	US-PATENT-CLASS-128-2.05	c 04	N71-23185 *	US-PATENT-CLASS-128-325	c 52	N84-28388 *
US-PATENT-CLASS-126-271	c 44	N79-11471 *	US-PATENT-CLASS-128-2.05	c 05	N71-27234 *	US-PATENT-CLASS-128-327	c 52	N82-11770 *
US-PATENT-CLASS-126-271	c 44	N79-14526 *	US-PATENT-CLASS-128-2.06B	c 05	N75-24716 *	US-PATENT-CLASS-128-328	c 52	N84-34913 *
US-PATENT-CLASS-126-271	c 44	N79-14529 *	US-PATENT-CLASS-128-2.06E	c 52	N76-29896 *	US-PATENT-CLASS-128-329R	c 52	N79-27836 *
US-PATENT-CLASS-126-271	c 44	N79-18443 *	US-PATENT-CLASS-128-2.06F	c 52	N74-12778 *	US-PATENT-CLASS-128-346	c 52	N81-25660 *
US-PATENT-CLASS-126-271	c 44	N79-23481 *	US-PATENT-CLASS-128-2.06R	c 05	N73-27941 *	US-PATENT-CLASS-128-346	c 52	N84-11744 *
US-PATENT-CLASS-126-271	c 44	N79-24433 *	US-PATENT-CLASS-128-2.06R	c 52	N76-14757 *	US-PATENT-CLASS-128-346	c 52	N84-28388 *
US-PATENT-CLASS-126-400	c 44	N78-15560 *	US-PATENT-CLASS-128-2.06	c 05	N69-21925 *	US-PATENT-CLASS-128-348	c 52	N80-16725 *
US-PATENT-CLASS-126-400	c 44	N79-24433 *	US-PATENT-CLASS-128-2.06	c 05	N71-22896 *	US-PATENT-CLASS-128-379	c 52	N77-14736 *
US-PATENT-CLASS-126-400	c 44	N85-30474 *	US-PATENT-CLASS-128-2.06	c 09	N71-24618 *	US-PATENT-CLASS-128-38	c 54	N84-16803 *
US-PATENT-CLASS-126-415	c 44	N84-34792 *	US-PATENT-CLASS-128-2.06	c 05	N71-26293 *	US-PATENT-CLASS-128-400	c 52	N77-14736 *
US-PATENT-CLASS-126-415	c 44	N85-30474 *	US-PATENT-CLASS-128-2.07	c 05	N73-32015 *	US-PATENT-CLASS-128-402	c 05	N72-20096 *
US-PATENT-CLASS-126-417	c 44	N80-16452 *	US-PATENT-CLASS-128-2.07	c 52	N74-20728 *	US-PATENT-CLASS-128-402	c 52	N77-14736 *
US-PATENT-CLASS-126-417	c 34	N84-22903 *	US-PATENT-CLASS-128-2.08	c 05	N69-21473 *	US-PATENT-CLASS-128-410	c 52	N77-28717 *
US-PATENT-CLASS-126-418	c 44	N84-28204 *	US-PATENT-CLASS-128-2.08	c 05	N73-32015 *	US-PATENT-CLASS-128-417	c 05	N72-25120 *
US-PATENT-CLASS-126-418	c 44	N86-27706 *	US-PATENT-CLASS-128-2.08	c 52	N74-20728 *	US-PATENT-CLASS-128-417	c 05	N72-27103 *
US-PATENT-CLASS-126-419	c 44	N80-20810 *	US-PATENT-CLASS-128-2.1A	c 09	N72-17153 *	US-PATENT-CLASS-128-418	c 52	N76-29896 *
US-PATENT-CLASS-126-419	c 44	N81-17518 *	US-PATENT-CLASS-128-2.1A	c 09	N72-22202 *	US-PATENT-CLASS-128-418	c 52	N77-14738 *
US-PATENT-CLASS-126-419	c 44	N84-28203 *	US-PATENT-CLASS-128-2.1A	c 52	N74-26625 *	US-PATENT-CLASS-128-419P	c 52	N76-29896 *
US-PATENT-CLASS-126-419	c 44	N85-30474 *	US-PATENT-CLASS-128-2.1A	c 52	N76-14757 *	US-PATENT-CLASS-128-421	c 52	N82-29863 *
US-PATENT-CLASS-126-419	c 44	N86-27706 *	US-PATENT-CLASS-128-2.1A	c 52	N76-29896 *	US-PATENT-CLASS-128-422	c 52	N82-33996 *
US-PATENT-CLASS-126-422	c 44	N82-18686 *	US-PATENT-CLASS-128-2.1A	c 52	N79-18580 *	US-PATENT-CLASS-128-422A	c 52	N82-29862 *
US-PATENT-CLASS-126-423	c 34	N88-23958 *	US-PATENT-CLASS-128-2.1E	c 05	N72-27103 *	US-PATENT-CLASS-128-639	c 52	N79-27836 *
US-PATENT-CLASS-126-425	c 44	N88-14492 *	US-PATENT-CLASS-128-2.1E	c 35	N76-24525 *	US-PATENT-CLASS-128-642	c 52	N80-27072 *
US-PATENT-CLASS-126-429	c 44	N82-18686 *	US-PATENT-CLASS-128-2.1E	c 52	N77-28717 *	US-PATENT-CLASS-128-642	c 52	N81-14612 *
US-PATENT-CLASS-126-430	c 44	N82-18686 *	US-PATENT-CLASS-128-2.1R	c 05	N73-26072 *	US-PATENT-CLASS-128-642	c 52	N81-20703 *
US-PATENT-CLASS-126-434	c 44	N80-20810 *	US-PATENT-CLASS-128-2.1Z	c 35	N76-24525 *	US-PATENT-CLASS-128-660	c 52	N79-26771 *
US-PATENT-CLASS-126-437	c 44	N80-20810 *	US-PATENT-CLASS-128-2.1	c 05	N71-11193 *	US-PATENT-CLASS-128-660	c 52	N83-27578 *
US-PATENT-CLASS-126-438	c 44	N80-14473 *	US-PATENT-CLASS-128-2.1	c 05	N71-12346 *	US-PATENT-CLASS-128-660	c 52	N85-30618 *
US-PATENT-CLASS-126-438	c 44	N82-16475 *	US-PATENT-CLASS-128-2.1	c 05	N71-24729 *	US-PATENT-CLASS-128-663	c 52	N83-27578 *
US-PATENT-CLASS-126-438	c 44	N84-28203 *	US-PATENT-CLASS-128-2.1	c 09	N71-26002 *	US-PATENT-CLASS-128-665	c 52	N81-27783 *
US-PATENT-CLASS-126-438	c 44	N84-28204 *	US-PATENT-CLASS-128-2.1	c 05	N72-25120 *	US-PATENT-CLASS-128-666	c 52	N80-23969 *
US-PATENT-CLASS-126-438	c 44	N86-27706 *	US-PATENT-CLASS-128-2F	c 54	N76-14804 *	US-PATENT-CLASS-128-686	c 52	N82-11770 *
US-PATENT-CLASS-126-440	c 44	N84-28204 *	US-PATENT-CLASS-128-2H	c 52	N76-14757 *	US-PATENT-CLASS-128-690	c 52	N80-23969 *
US-PATENT-CLASS-126-442	c 44	N80-14473 *	US-PATENT-CLASS-128-2H	c 52	N76-29896 *	US-PATENT-CLASS-128-691	c 52	N82-11770 *
US-PATENT-CLASS-126-443	c 35	N89-12048 *	US-PATENT-CLASS-128-2H	c 52	N77-10780 *	US-PATENT-CLASS-128-6	c 52	N80-16725 *
US-PATENT-CLASS-126-451	c 44	N84-28203 *	US-PATENT-CLASS-128-2H	c 52	N77-14736 *	US-PATENT-CLASS-128-736	c 52	N85-30618 *
US-PATENT-CLASS-126-900	c 44	N85-30474 *	US-PATENT-CLASS-128-2N	c 05	N72-25122 *	US-PATENT-CLASS-128-748	c 52	N80-18691 *
US-PATENT-CLASS-126-901	c 44	N80-16452 *	US-PATENT-CLASS-128-2N	c 05	N73-13114 *	US-PATENT-CLASS-128-760	c 52	N80-18690 *
US-PATENT-CLASS-126-901	c 44	N83-34449 *	US-PATENT-CLASS-128-2P	c 52	N76-29896 *	US-PATENT-CLASS-128-760	c 52	N81-29763 *
US-PATENT-CLASS-126-901	c 35	N89-12048 *	US-PATENT-CLASS-128-2P	c 09	N72-22202 *	US-PATENT-CLASS-128-761	c 52	N81-24711 *
US-PATENT-CLASS-126-91A	c 25	N79-11151 *	US-PATENT-CLASS-128-2R	c 52	N79-12694 *	US-PATENT-CLASS-128-774	c 52	N80-27072 *
US-PATENT-CLASS-128-2.06E	c 05	N75-24716 *	US-PATENT-CLASS-128-2S	c 52	N74-10975 *	US-PATENT-CLASS-128-774	c 52	N81-20703 *
US-PATENT-CLASS-128-2.07	c 52	N79-21750 *	US-PATENT-CLASS-128-2S	c 52	N74-27864 *	US-PATENT-CLASS-128-774	c 52	N83-25346 *
US-PATENT-CLASS-128-DIG.12	c 37	N77-28487 *	US-PATENT-CLASS-128-2S	c 33	N75-31329 *	US-PATENT-CLASS-128-778	c 52	N82-2875 *
US-PATENT-CLASS-128-DIG.12	c 51	N81-14605 *	US-PATENT-CLASS-128-2S	c 33	N76-19338 *	US-PATENT-CLASS-128-782	c 52	N80-27072 *
US-PATENT-CLASS-128-DIG.13	c 52	N83-27577 *	US-PATENT-CLASS-128-2S	c 52	N76-29895 *	US-PATENT-CLASS-128-782	c 39	N83-20280 *
US-PATENT-CLASS-128-DIG.16	c 51	N81-14605 *	US-PATENT-CLASS-128-2S	c 52	N76-29896 *	US-PATENT-CLASS-128-782	c 52	N83-25346 *
US-PATENT-CLASS-128-DIG.20	c 52	N76-19785 *	US-PATENT-CLASS-128-2V	c 52	N74-20726 *	US-PATENT-CLASS-128-784	c 52	N82-33996 *
US-PATENT-CLASS-128-DIG.20	c 37	N81-17433 *	US-PATENT-CLASS-128-2V	c 35	N75-12271 *	US-PATENT-CLASS-128-80-E	c 54	N86-22112 *
US-PATENT-CLASS-128-DIG.25	c 52	N81-25660 *	US-PATENT-CLASS-128-2V	c 54	N75-27760 *	US-PATENT-CLASS-128-80F	c 52	N81-25661 *
US-PATENT-CLASS-128-DIG.25	c 52	N84-11744 *	US-PATENT-CLASS-128-2V	c 52	N79-14751 *	US-PATENT-CLASS-128-804	c 52	N82-33996 *
US-PATENT-CLASS-128-DIG.26	c 51	N81-14605 *	US-PATENT-CLASS-128-2V	c 52	N79-18580 *	US-PATENT-CLASS-128-89R	c 52	N81-25662 *
US-PATENT-CLASS-128-DIG.4	c 05	N72-27103 *	US-PATENT-CLASS-128-202.11	c 54	N86-28618 *	US-PATENT-CLASS-128-903	c 52	N80-18691 *
US-PATENT-CLASS-128-DIG.4	c 05	N75-24716 *	US-PATENT-CLASS-128-203	c 54	N76-24900 *	US-PATENT-CLASS-128-92C	c 27	N78-17215 *
US-PATENT-CLASS-128-DIG.4	c 35	N76-24525 *	US-PATENT-CLASS-128-204.18	c 51	N81-14605 *	US-PATENT-CLASS-128-92G	c 27	N78-17215 *
US-PATENT-CLASS-128-DIG.4	c 52	N77-28717 *	US-PATENT-CLASS-128-206F	c 14	N73-24473 *	US-PATENT-CLASS-129-16.7	c 08	N71-15908 *
US-PATENT-CLASS-128-DIG.6	c 51	N81-14605 *	US-PATENT-CLASS-128-207.14	c 51	N81-14605 *	US-PATENT-CLASS-13-20	c 11	N72-23215 *
US-PATENT-CLASS-128-DIG.9	c 52	N80-16725 *	US-PATENT-CLASS-128-207.28	c 51	N81-14605 *	US-PATENT-CLASS-13-20	c 12	N79-26075 *
US-PATENT-CLASS-128-DIG.9	c 51	N81-14605 *	US-PATENT-CLASS-128-212	c 54	N80-10799 *	US-PATENT-CLASS-13-22	c 12	N79-26075 *
US-PATENT-CLASS-128-1.2	c 52	N82-2875 *	US-PATENT-CLASS-128-214D	c 52	N79-14749 *	US-PATENT-CLASS-13-24	c 12	N79-26075 *
US-PATENT-CLASS-128-1A	c 05	N73-32012 *	US-PATENT-CLASS-128-214E	c 52	N74-22771 *	US-PATENT-CLASS-13-26	c 33	N71-15625 *
US-PATENT-CLASS-128-1A	c 54	N84-16803 *	US-PATENT-CLASS-128-214F	c 37	N77-28487 *	US-PATENT-CLASS-13-26	c 14	N71-23267 *
US-PATENT-CLASS-128-1R	c 52	N77-25772 *	US-PATENT-CLASS-128-230	c 52	N75-33640 *	US-PATENT-CLASS-13-31	c 11	N72-23215 *
US-PATENT-CLASS-128-1R	c 52	N77-28716 *	US-PATENT-CLASS-128-236	c 51	N81-14605 *	US-PATENT-CLASS-13-31	c 31	N74-27900 *
US-PATENT-CLASS-128-1R	c 52	N81-25660 *	US-PATENT-CLASS-128-24-A	c 52	N84-34913 *	US-PATENT-CLASS-13-35	c 33	N71-24145 *



US-PATENT-CLASS-134-137	c 37	N82-12441 *	US-PATENT-CLASS-136-30	c 44	N76-18643 *	US-PATENT-CLASS-137-207	c 34	N77-30399 *
US-PATENT-CLASS-134-166C	c 37	N87-17035 *	US-PATENT-CLASS-136-30	c 44	N76-29699 *	US-PATENT-CLASS-137-209	c 34	N77-30399 *
US-PATENT-CLASS-134-17	c 43	N81-26517 *	US-PATENT-CLASS-136-36	c 44	N74-19692 *	US-PATENT-CLASS-137-209	c 20	N80-10278 *
US-PATENT-CLASS-134-21	c 37	N76-18456 *	US-PATENT-CLASS-136-6LF	c 44	N76-18643 *	US-PATENT-CLASS-137-340	c 15	N70-34817 *
US-PATENT-CLASS-134-37	c 37	N76-18456 *	US-PATENT-CLASS-136-6	c 03	N71-26084 *	US-PATENT-CLASS-137-340	c 15	N70-35087 *
US-PATENT-CLASS-134-37	c 37	N85-21652 *	US-PATENT-CLASS-136-6	c 03	N72-15986 *	US-PATENT-CLASS-137-341	c 12	N71-17661 *
US-PATENT-CLASS-134-93	c 37	N87-17035 *	US-PATENT-CLASS-136-6	c 44	N82-24641 *	US-PATENT-CLASS-137-375	c 37	N80-23654 *
US-PATENT-CLASS-135-1	c 32	N70-36536 *	US-PATENT-CLASS-136-6	c 44	N82-24642 *	US-PATENT-CLASS-137-397	c 15	N73-26472 *
US-PATENT-CLASS-135-903	c 37	N87-17036 *	US-PATENT-CLASS-136-6	c 44	N82-24643 *	US-PATENT-CLASS-137-469	c 05	N72-20097 *
US-PATENT-CLASS-136-100R	c 03	N72-20034 *	US-PATENT-CLASS-136-6	c 44	N82-24644 *	US-PATENT-CLASS-137-484.2	c 34	N78-25351 *
US-PATENT-CLASS-136-114	c 44	N76-14601 *	US-PATENT-CLASS-136-79	c 03	N72-20032 *	US-PATENT-CLASS-137-487.5	c 14	N73-13418 *
US-PATENT-CLASS-136-132	c 03	N71-11053 *	US-PATENT-CLASS-136-81	c 03	N72-20032 *	US-PATENT-CLASS-137-491	c 15	N69-21924 *
US-PATENT-CLASS-136-132	c 03	N71-22974 *	US-PATENT-CLASS-136-81R	c 03	N72-20034 *	US-PATENT-CLASS-137-493	c 52	N81-25660 *
US-PATENT-CLASS-136-133	c 15	N69-24320 *	US-PATENT-CLASS-136-83R	c 44	N76-18641 *	US-PATENT-CLASS-137-495	c 15	N70-38603 *
US-PATENT-CLASS-136-133	c 03	N71-23006 *	US-PATENT-CLASS-136-83	c 03	N71-28579 *	US-PATENT-CLASS-137-496	c 15	N71-22706 *
US-PATENT-CLASS-136-133	c 03	N72-15986 *	US-PATENT-CLASS-136-86A	c 44	N76-27664 *	US-PATENT-CLASS-137-501	c 34	N78-25351 *
US-PATENT-CLASS-136-135	c 03	N72-15986 *	US-PATENT-CLASS-136-86S	c 44	N76-18641 *	US-PATENT-CLASS-137-505.12	c 14	N71-18625 *
US-PATENT-CLASS-136-143	c 44	N76-29699 *	US-PATENT-CLASS-136-86	c 03	N71-11052 *	US-PATENT-CLASS-137-505.16	c 34	N78-25351 *
US-PATENT-CLASS-136-146	c 03	N69-21337 *	US-PATENT-CLASS-136-86	c 03	N71-20904 *	US-PATENT-CLASS-137-505.25	c 37	N78-25426 *
US-PATENT-CLASS-136-146	c 24	N76-14204 *	US-PATENT-CLASS-136-86	c 15	N71-23022 *	US-PATENT-CLASS-137-505.38	c 37	N75-15050 *
US-PATENT-CLASS-136-148	c 24	N76-14204 *	US-PATENT-CLASS-136-86	c 03	N71-29044 *	US-PATENT-CLASS-137-505.42	c 37	N75-15050 *
US-PATENT-CLASS-136-148	c 44	N82-24645 *	US-PATENT-CLASS-136-89AC	c 44	N77-31601 *	US-PATENT-CLASS-137-515.3	c 37	N76-14463 *
US-PATENT-CLASS-136-162	c 44	N76-14601 *	US-PATENT-CLASS-136-89CA	c 44	N79-25482 *	US-PATENT-CLASS-137-516.27	c 15	N73-30459 *
US-PATENT-CLASS-136-166	c 03	N71-23336 *	US-PATENT-CLASS-136-89CC	c 44	N78-25527 *	US-PATENT-CLASS-137-535	c 15	N73-30459 *
US-PATENT-CLASS-136-166	c 03	N72-20032 *	US-PATENT-CLASS-136-89CC	c 44	N78-25529 *	US-PATENT-CLASS-137-535	c 05	N73-32014 *
US-PATENT-CLASS-136-170	c 03	N71-11051 *	US-PATENT-CLASS-136-89CC	c 44	N79-11467 *	US-PATENT-CLASS-137-538	c 05	N73-25125 *
US-PATENT-CLASS-136-175	c 03	N72-20034 *	US-PATENT-CLASS-136-89CC	c 44	N79-17314 *	US-PATENT-CLASS-137-539	c 15	N70-41811 *
US-PATENT-CLASS-136-179	c 03	N70-41864 *	US-PATENT-CLASS-136-89CC	c 44	N79-25482 *	US-PATENT-CLASS-137-549	c 37	N81-17433 *
US-PATENT-CLASS-136-182	c 03	N71-10728 *	US-PATENT-CLASS-136-89CC	c 44	N79-31752 *	US-PATENT-CLASS-137-550	c 37	N76-14463 *
US-PATENT-CLASS-136-182	c 03	N71-20407 *	US-PATENT-CLASS-136-89H	c 44	N78-25528 *	US-PATENT-CLASS-137-554	c 09	N71-23191 *
US-PATENT-CLASS-136-182	c 03	N71-20491 *	US-PATENT-CLASS-136-89H	c 44	N78-25529 *	US-PATENT-CLASS-137-559	c 11	N73-12265 *
US-PATENT-CLASS-136-182	c 44	N74-27519 *	US-PATENT-CLASS-136-89PC	c 44	N79-25482 *	US-PATENT-CLASS-137-574	c 20	N80-10278 *
US-PATENT-CLASS-136-182	c 44	N76-14601 *	US-PATENT-CLASS-136-89PC	c 44	N79-31753 *	US-PATENT-CLASS-137-576	c 20	N80-10278 *
US-PATENT-CLASS-136-202	c 09	N72-12136 *	US-PATENT-CLASS-136-89P	c 44	N77-31601 *	US-PATENT-CLASS-137-582	c 32	N71-16103 *
US-PATENT-CLASS-136-202	c 03	N72-26031 *	US-PATENT-CLASS-136-89P	c 44	N78-25528 *	US-PATENT-CLASS-137-582	c 32	N71-16106 *
US-PATENT-CLASS-136-202	c 44	N76-16612 *	US-PATENT-CLASS-136-89P	c 44	N78-25529 *	US-PATENT-CLASS-137-582	c 15	N71-19569 *
US-PATENT-CLASS-136-202	c 35	N77-32454 *	US-PATENT-CLASS-136-89P	c 44	N78-27515 *	US-PATENT-CLASS-137-582	c 15	N73-26472 *
US-PATENT-CLASS-136-202	c 35	N79-14346 *	US-PATENT-CLASS-136-89P	c 44	N79-17314 *	US-PATENT-CLASS-137-590	c 20	N80-10278 *
US-PATENT-CLASS-136-206	c 03	N72-11062 *	US-PATENT-CLASS-136-89P	c 44	N80-14474 *	US-PATENT-CLASS-137-594	c 12	N71-18615 *
US-PATENT-CLASS-136-206	c 09	N72-12136 *	US-PATENT-CLASS-136-89SG	c 44	N78-24609 *	US-PATENT-CLASS-137-604	c 15	N73-27406 *
US-PATENT-CLASS-136-206	c 44	N76-14595 *	US-PATENT-CLASS-136-89SG	c 44	N80-24741 *	US-PATENT-CLASS-137-606	c 37	N87-21332 *
US-PATENT-CLASS-136-206	c 44	N76-31666 *	US-PATENT-CLASS-136-89SJ	c 44	N78-13526 *	US-PATENT-CLASS-137-608	c 15	N73-13462 *
US-PATENT-CLASS-136-206	c 44	N74-19693 *	US-PATENT-CLASS-136-89SJ	c 44	N79-11467 *	US-PATENT-CLASS-137-614.06	c 37	N79-11402 *
US-PATENT-CLASS-136-210	c 44	N76-16612 *	US-PATENT-CLASS-136-89SJ	c 44	N79-14528 *	US-PATENT-CLASS-137-614.11	c 37	N87-25573 *
US-PATENT-CLASS-136-211	c 35	N76-15434 *	US-PATENT-CLASS-136-89SJ	c 44	N79-25482 *	US-PATENT-CLASS-137-614.18	c 37	N87-25573 *
US-PATENT-CLASS-136-212	c 35	N76-15434 *	US-PATENT-CLASS-136-89	c 03	N69-24267 *	US-PATENT-CLASS-137-614	c 15	N70-36492 *
US-PATENT-CLASS-136-213	c 14	N69-27459 *	US-PATENT-CLASS-136-89	c 03	N71-11049 *	US-PATENT-CLASS-137-615	c 12	N71-16031 *
US-PATENT-CLASS-136-213	c 34	N74-27861 *	US-PATENT-CLASS-136-89	c 03	N71-11050 *	US-PATENT-CLASS-137-624.11	c 35	N78-19466 *
US-PATENT-CLASS-136-224	c 14	N73-12447 *	US-PATENT-CLASS-136-89	c 03	N71-11056 *	US-PATENT-CLASS-137-624.14	c 03	N69-21469 *
US-PATENT-CLASS-136-225	c 14	N73-24472 *	US-PATENT-CLASS-136-89	c 03	N71-18698 *	US-PATENT-CLASS-137-625.38	c 37	N78-25426 *
US-PATENT-CLASS-136-225	c 35	N76-15434 *	US-PATENT-CLASS-136-89	c 03	N71-19545 *	US-PATENT-CLASS-137-625.3	c 37	N78-25426 *
US-PATENT-CLASS-136-225	c 44	N85-21768 *	US-PATENT-CLASS-136-89	c 03	N71-20492 *	US-PATENT-CLASS-137-625.4	c 37	N80-23654 *
US-PATENT-CLASS-136-227	c 09	N72-12136 *	US-PATENT-CLASS-136-89	c 03	N71-20895 *	US-PATENT-CLASS-137-625.5	c 15	N71-23051 *
US-PATENT-CLASS-136-228	c 33	N71-15568 *	US-PATENT-CLASS-136-89	c 26	N71-23043 *	US-PATENT-CLASS-137-625.69	c 15	N70-36908 *
US-PATENT-CLASS-136-230	c 14	N71-23039 *	US-PATENT-CLASS-136-89	c 03	N71-23187 *	US-PATENT-CLASS-137-628	c 37	N74-21065 *
US-PATENT-CLASS-136-230	c 34	N74-27861 *	US-PATENT-CLASS-136-89	c 03	N71-23449 *	US-PATENT-CLASS-137-637.05	c 37	N79-11402 *
US-PATENT-CLASS-136-232	c 35	N77-14409 *	US-PATENT-CLASS-136-89	c 03	N71-33409 *	US-PATENT-CLASS-137-81.5	c 12	N69-21466 *
US-PATENT-CLASS-136-233	c 14	N72-27410 *	US-PATENT-CLASS-136-89	c 03	N72-20031 *	US-PATENT-CLASS-137-81.5	c 15	N71-15609 *
US-PATENT-CLASS-136-233	c 14	N73-13417 *	US-PATENT-CLASS-136-89	c 03	N72-22042 *	US-PATENT-CLASS-137-81.5	c 12	N71-17578 *
US-PATENT-CLASS-136-233	c 34	N74-27861 *	US-PATENT-CLASS-136-89	c 31	N72-22874 *	US-PATENT-CLASS-137-81.5	c 12	N71-17579 *
US-PATENT-CLASS-136-233	c 35	N77-14409 *	US-PATENT-CLASS-136-89	c 03	N72-24037 *	US-PATENT-CLASS-137-81.5	c 10	N71-25899 *
US-PATENT-CLASS-136-236R	c 35	N77-32454 *	US-PATENT-CLASS-136-89	c 09	N72-25259 *	US-PATENT-CLASS-137-81.5	c 12	N71-27332 *
US-PATENT-CLASS-136-236	c 35	N79-14346 *	US-PATENT-CLASS-136-89	c 03	N72-27053 *	US-PATENT-CLASS-137-81.5	c 12	N71-28741 *
US-PATENT-CLASS-136-240	c 35	N77-32454 *	US-PATENT-CLASS-136-89	c 09	N73-32109 *	US-PATENT-CLASS-137-81.5	c 28	N72-22772 *
US-PATENT-CLASS-136-246	c 44	N85-21768 *	US-PATENT-CLASS-136-89	c 44	N74-14784 *	US-PATENT-CLASS-137-81.5	c 15	N72-33477 *
US-PATENT-CLASS-136-249	c 44	N81-12542 *	US-PATENT-CLASS-136-89	c 44	N76-14600 *	US-PATENT-CLASS-137-81.5	c 15	N73-13462 *
US-PATENT-CLASS-136-249	c 44	N82-29709 *	US-PATENT-CLASS-136-89	c 44	N76-28635 *	US-PATENT-CLASS-137-81.5	c 28	N73-13773 *
US-PATENT-CLASS-136-249	c 44	N82-31764 *	US-PATENT-CLASS-136-89	c 44	N76-31666 *	US-PATENT-CLASS-137-819	c 33	N74-11050 *
US-PATENT-CLASS-136-249	c 44	N83-32177 *	US-PATENT-CLASS-136-89	c 44	N77-10635 *	US-PATENT-CLASS-137-81	c 05	N72-20097 *
US-PATENT-CLASS-136-249	c 44	N87-17399 *	US-PATENT-CLASS-136-89	c 44	N77-14580 *	US-PATENT-CLASS-137-81	c 14	N73-13418 *
US-PATENT-CLASS-136-249	c 33	N87-23879 *	US-PATENT-CLASS-136-89	c 44	N77-19571 *	US-PATENT-CLASS-137-833	c 33	N74-11050 *
US-PATENT-CLASS-136-24	c 09	N73-32108 *	US-PATENT-CLASS-136-89	c 44	N79-11468 *	US-PATENT-CLASS-137-838	c 71	N84-28568 *
US-PATENT-CLASS-136-253	c 44	N85-34441 *	US-PATENT-CLASS-136-90	c 44	N76-14601 *	US-PATENT-CLASS-137-840	c 33	N74-11050 *
US-PATENT-CLASS-136-255	c 44	N81-29525 *	US-PATENT-CLASS-137-DIG.9	c 54	N76-24900 *	US-PATENT-CLASS-137-886	c 37	N81-17433 *
US-PATENT-CLASS-136-255	c 44	N83-14692 *	US-PATENT-CLASS-137-101	c 07	N77-23106 *	US-PATENT-CLASS-137-887	c 37	N81-17433 *
US-PATENT-CLASS-136-255	c 33	N85-21492 *	US-PATENT-CLASS-137-104	c 37	N78-10467 *	US-PATENT-CLASS-137-99	c 37	N85-34403 *
US-PATENT-CLASS-136-255	c 44	N85-30475 *	US-PATENT-CLASS-137-110	c 54	N76-24900 *	US-PATENT-CLASS-138.8R	c 27	N81-15104 *
US-PATENT-CLASS-136-255	c 76	N86-20150 *	US-PATENT-CLASS-137-116.3	c 37	N85-34403 *	US-PATENT-CLASS-138-103	c 52	N80-16725 *
US-PATENT-CLASS-136-255	c 33	N87-23879 *	US-PATENT-CLASS-137-13	c 15	N71-15967 *	US-PATENT-CLASS-138-113	c 34	N75-12222 *
US-PATENT-CLASS-136-256	c 44	N83-13579 *	US-PATENT-CLASS-137-13	c 15	N72-33477 *	US-PATENT-CLASS-138-114	c 34	N75-12222 *
US-PATENT-CLASS-136-256	c 44	N83-14692 *	US-PATENT-CLASS-137-14	c 37	N79-33468 *	US-PATENT-CLASS-138-119	c 32	N70-41579 *
US-PATENT-CLASS-136-256	c 44	N85-20530 *	US-PATENT-CLASS-137-15.1	c 02	N74-20646 *	US-PATENT-CLASS-138-120	c 54	N86-28619 *
US-PATENT-CLASS-136-256	c 44	N85-30475 *	US-PATENT-CLASS-137-15.1	c 07	N74-31270 *	US-PATENT-CLASS-138-120	c 54	N86-28620 *
US-PATENT-CLASS-136-258	c 44	N81-19558 *	US-PATENT-CLASS-137-15.1	c 07	N75-24736 *	US-PATENT-CLASS-138-120	c 54	N86-29507 *
US-PATENT-CLASS-136-258	c 44	N81-29525 *	US-PATENT-CLASS-137-15.1	c 07	N77-18154 *	US-PATENT-CLASS-138-133	c 52	N80-16725 *
US-PATENT-CLASS-136-259	c 44	N83-13579 *	US-PATENT-CLASS-137-15.1	c 07	N79-14096 *	US-PATENT-CLASS-138-148	c 34	N75-12222 *
US-PATENT-CLASS-136-259	c 44	N83-14692 *	US-PATENT-CLASS-137-15.1	c 05	N79-24976 *	US-PATENT-CLASS-138-178	c 15	N72-20445 *
US-PATENT-CLASS-136-261	c 44	N82-26777 *	US-PATENT-CLASS-137-15.1	c 07	N81-14999 *	US-PATENT-CLASS-138-33	c 52	N80-16725 *
US-PATENT-CLASS-136-261	c 44	N85-30475 *	US-PATENT-CLASS-137-15.2	c 02	N74-20646 *	US-PATENT-CLASS-138-38	c 02	N88-14071 *
US-PATENT-CLASS-136-261	c 44	N86-32875 *	US-PATENT-CLASS-137-15.2	c 35	N76-14431 *	US-PATENT-CLASS-138-38	c 34	N88-29133 *
US-PATENT-CLASS-136-262	c 44	N81-29525 *	US-PATENT-CLASS-137-154	c 15	N73-27406 *	US-PATENT-CLASS-138-42	c 15	N71-15608 *
US-PATENT-CLASS-136-262	c 76	N86-20150 *	US-PATENT-CLASS-137-177	c 20	N80-10278 *	US-PATENT-CLASS-138-42	c 44	N84-14583 *
US-PATENT-CLASS-136-28	c 03	N71-10608 *	US-PATENT-CLASS-137-197	c 15	N70-41646 *	US-PATENT-CLASS-138-43	c 15	N71-19213 *
US-PATENT-CLASS-136-290	c 44	N82-26777 *	US-PATENT-CLASS-137-197	c 35	N78-12390 *	US-PATENT-CLASS-138-45	c 15	N71-18580 *
US-PATENT-CLASS-136-291	c 44	N81-12542 *	US-PATENT-CLASS-137-1	c 12	N70-38997 *	US-PATENT-CLASS-138-45	c 15	N73-13462 *
US-PATENT-CLASS-136-30	c 44	N74-19693 *	US-PATENT-CLASS-137-1	c 15	N73-27406 *	US-PATENT-CLASS-138-46	c 12	N71-18615 *

US-PATENT-CLASS-138-4	c 15	N71-18580 *	US-PATENT-CLASS-149-19.8	c 28	N78-31255 *	US-PATENT-CLASS-156-18	c 74	N75-12732 *
US-PATENT-CLASS-138-96R	c 37	N79-22474 *	US-PATENT-CLASS-149-19.92	c 28	N79-14228 *	US-PATENT-CLASS-156-191	c 52	N84-28389 *
US-PATENT-CLASS-138-97	c 37	N86-32736 *	US-PATENT-CLASS-149-19.9	c 28	N79-14228 *	US-PATENT-CLASS-156-212	c 03	N71-26726 *
US-PATENT-CLASS-139-425R	c 28	N72-11708 *	US-PATENT-CLASS-149-19.9	c 28	N79-28342 *	US-PATENT-CLASS-156-212	c 24	N80-26388 *
US-PATENT-CLASS-140-105	c 15	N72-12408 *	US-PATENT-CLASS-149-19.9	c 28	N80-28536 *	US-PATENT-CLASS-156-212	c 27	N81-14077 *
US-PATENT-CLASS-140-123	c 15	N71-15918 *	US-PATENT-CLASS-149-19	c 27	N71-14090 *	US-PATENT-CLASS-156-213	c 24	N80-26388 *
US-PATENT-CLASS-140-124	c 15	N71-10809 *	US-PATENT-CLASS-149-19	c 27	N72-25699 *	US-PATENT-CLASS-156-215	c 35	N84-12443 *
US-PATENT-CLASS-141-197	c 35	N78-10428 *	US-PATENT-CLASS-149-19	c 27	N73-16764 *	US-PATENT-CLASS-156-218	c 54	N74-32546 *
US-PATENT-CLASS-141-198	c 25	N86-27431 *	US-PATENT-CLASS-149-1	c 23	N71-16212 *	US-PATENT-CLASS-156-229	c 24	N77-28225 *
US-PATENT-CLASS-141-23	c 15	N72-21465 *	US-PATENT-CLASS-149-1	c 06	N73-30097 *	US-PATENT-CLASS-156-229	c 74	N87-28416 *
US-PATENT-CLASS-141-258	c 14	N71-27005 *	US-PATENT-CLASS-149-1	c 28	N80-20402 *	US-PATENT-CLASS-156-230	c 35	N84-12443 *
US-PATENT-CLASS-141-4	c 35	N78-10428 *	US-PATENT-CLASS-149-1	c 28	N81-14103 *	US-PATENT-CLASS-156-233	c 35	N88-30108 *
US-PATENT-CLASS-141-5	c 33	N71-20834 *	US-PATENT-CLASS-149-20	c 27	N72-25699 *	US-PATENT-CLASS-156-235	c 35	N84-12443 *
US-PATENT-CLASS-141-91	c 12	N71-21089 *	US-PATENT-CLASS-149-20	c 28	N79-14228 *	US-PATENT-CLASS-156-242	c 15	N69-24322 *
US-PATENT-CLASS-148-DIG.26	c 76	N85-30922 *	US-PATENT-CLASS-149-20	c 28	N79-28342 *	US-PATENT-CLASS-156-242	c 37	N76-24575 *
US-PATENT-CLASS-148-1.5	c 26	N71-10607 *	US-PATENT-CLASS-149-20	c 28	N80-28536 *	US-PATENT-CLASS-156-242	c 24	N81-33235 *
US-PATENT-CLASS-148-1.5	c 26	N71-23654 *	US-PATENT-CLASS-149-2	c 12	N70-40124 *	US-PATENT-CLASS-156-245	c 31	N74-18089 *
US-PATENT-CLASS-148-1.5	c 26	N74-20329 *	US-PATENT-CLASS-149-36	c 27	N72-25699 *	US-PATENT-CLASS-156-245	c 24	N78-17149 *
US-PATENT-CLASS-148-1.5	c 44	N80-29835 *	US-PATENT-CLASS-149-36	c 27	N73-16764 *	US-PATENT-CLASS-156-245	c 24	N81-33235 *
US-PATENT-CLASS-148-1.5	c 33	N81-26360 *	US-PATENT-CLASS-149-36	c 06	N73-30097 *	US-PATENT-CLASS-156-247	c 31	N74-18089 *
US-PATENT-CLASS-148-1.5	c 44	N82-26777 *	US-PATENT-CLASS-149-36	c 24	N76-14203 *	US-PATENT-CLASS-156-247	c 35	N88-30108 *
US-PATENT-CLASS-148-1.5	c 44	N82-29709 *	US-PATENT-CLASS-149-37	c 44	N80-20808 *	US-PATENT-CLASS-156-250	c 03	N72-25019 *
US-PATENT-CLASS-148-1.5	c 44	N86-32875 *	US-PATENT-CLASS-149-42	c 20	N78-32179 *	US-PATENT-CLASS-156-252	c 24	N81-33235 *
US-PATENT-CLASS-148-11.5R	c 15	N73-13465 *	US-PATENT-CLASS-149-43	c 20	N78-32179 *	US-PATENT-CLASS-156-264	c 05	N72-25121 *
US-PATENT-CLASS-148-12.4	c 26	N79-22271 *	US-PATENT-CLASS-149-44	c 20	N78-32179 *	US-PATENT-CLASS-156-264	c 24	N78-17150 *
US-PATENT-CLASS-148-12.7A	c 26	N78-24333 *	US-PATENT-CLASS-149-60	c 28	N74-33209 *	US-PATENT-CLASS-156-264	c 24	N81-33235 *
US-PATENT-CLASS-148-12.7N	c 26	N77-20201 *	US-PATENT-CLASS-149-76	c 28	N74-33209 *	US-PATENT-CLASS-156-264	c 31	N83-34073 *
US-PATENT-CLASS-148-12F	c 26	N79-22271 *	US-PATENT-CLASS-149-76	c 20	N78-32179 *	US-PATENT-CLASS-156-267	c 27	N81-14077 *
US-PATENT-CLASS-148-121	c 76	N79-16678 *	US-PATENT-CLASS-149-83	c 20	N78-32179 *	US-PATENT-CLASS-156-272.4	c 31	N85-29083 *
US-PATENT-CLASS-148-125	c 26	N78-24333 *	US-PATENT-CLASS-149-85	c 20	N78-32179 *	US-PATENT-CLASS-156-272.4	c 35	N88-30108 *
US-PATENT-CLASS-148-126	c 17	N71-24142 *	US-PATENT-CLASS-149-88	c 28	N78-31255 *	US-PATENT-CLASS-156-272	c 27	N80-32516 *
US-PATENT-CLASS-148-126	c 18	N71-26153 *	US-PATENT-CLASS-149-92	c 27	N72-25699 *	US-PATENT-CLASS-156-272	c 33	N82-26571 *
US-PATENT-CLASS-148-126	c 18	N71-28729 *	US-PATENT-CLASS-149-92	c 28	N78-31255 *	US-PATENT-CLASS-156-273.7	c 27	N85-20125 *
US-PATENT-CLASS-148-126	c 26	N74-10521 *	US-PATENT-CLASS-149-93	c 28	N78-31255 *	US-PATENT-CLASS-156-273.9	c 31	N85-29083 *
US-PATENT-CLASS-148-127	c 26	N75-29236 *	US-PATENT-CLASS-15-143	c 15	N72-11390 *	US-PATENT-CLASS-156-274.8	c 35	N88-30108 *
US-PATENT-CLASS-148-131	c 26	N80-28492 *	US-PATENT-CLASS-15-210	c 15	N72-11390 *	US-PATENT-CLASS-156-275.5	c 35	N88-30108 *
US-PATENT-CLASS-148-13	c 14	N71-25892 *	US-PATENT-CLASS-15-230.16	c 37	N79-10422 *	US-PATENT-CLASS-156-278	c 44	N80-18550 *
US-PATENT-CLASS-148-16.6	c 26	N88-14179 *	US-PATENT-CLASS-15-230.17	c 37	N79-10422 *	US-PATENT-CLASS-156-285	c 15	N71-23052 *
US-PATENT-CLASS-148-162	c 26	N77-20201 *	US-PATENT-CLASS-15-406	c 37	N85-21652 *	US-PATENT-CLASS-156-285	c 18	N73-30532 *
US-PATENT-CLASS-148-162	c 26	N87-28647 *	US-PATENT-CLASS-15-415	c 14	N73-30395 *	US-PATENT-CLASS-156-285	c 31	N74-18089 *
US-PATENT-CLASS-148-173	c 76	N83-20789 *	US-PATENT-CLASS-150-11	c 37	N81-14317 *	US-PATENT-CLASS-156-285	c 24	N74-27035 *
US-PATENT-CLASS-148-174	c 26	N71-29156 *	US-PATENT-CLASS-150-1	c 52	N79-14749 *	US-PATENT-CLASS-156-285	c 24	N78-17149 *
US-PATENT-CLASS-148-174	c 44	N76-28635 *	US-PATENT-CLASS-151-41.76	c 37	N80-23653 *	US-PATENT-CLASS-156-285	c 24	N78-17150 *
US-PATENT-CLASS-148-174	c 44	N78-24609 *	US-PATENT-CLASS-152-11	c 31	N71-18611 *	US-PATENT-CLASS-156-285	c 44	N80-18550 *
US-PATENT-CLASS-148-174	c 76	N85-30922 *	US-PATENT-CLASS-152-225	c 15	N71-27091 *	US-PATENT-CLASS-156-285	c 24	N80-26388 *
US-PATENT-CLASS-148-174	c 76	N87-15882 *	US-PATENT-CLASS-152-250	c 15	N71-27091 *	US-PATENT-CLASS-156-285	c 24	N81-29163 *
US-PATENT-CLASS-148-175	c 25	N75-26043 *	US-PATENT-CLASS-152-330RF	c 37	N81-24443 *	US-PATENT-CLASS-156-285	c 24	N81-33235 *
US-PATENT-CLASS-148-175	c 76	N76-25049 *	US-PATENT-CLASS-152-353G	c 37	N81-24443 *	US-PATENT-CLASS-156-285	c 52	N84-28389 *
US-PATENT-CLASS-148-175	c 44	N76-28635 *	US-PATENT-CLASS-152-353R	c 37	N81-24443 *	US-PATENT-CLASS-156-286	c 37	N76-21554 *
US-PATENT-CLASS-148-175	c 44	N82-28780 *	US-PATENT-CLASS-152-379.4	c 37	N81-24443 *	US-PATENT-CLASS-156-286	c 37	N76-24575 *
US-PATENT-CLASS-148-175	c 76	N83-20789 *	US-PATENT-CLASS-156-307.7	c 27	N82-11206 *	US-PATENT-CLASS-156-286	c 24	N78-17150 *
US-PATENT-CLASS-148-175	c 76	N85-30922 *	US-PATENT-CLASS-156-DIG.6-8	c 76	N79-23798 *	US-PATENT-CLASS-156-286	c 37	N87-23981 *
US-PATENT-CLASS-148-175	c 76	N87-15882 *	US-PATENT-CLASS-156-DIG.62	c 76	N77-32919 *	US-PATENT-CLASS-156-286	c 74	N87-28416 *
US-PATENT-CLASS-148-187	c 26	N72-17820 *	US-PATENT-CLASS-156-DIG.62	c 35	N83-24828 *	US-PATENT-CLASS-156-289	c 24	N78-17149 *
US-PATENT-CLASS-148-187	c 14	N72-28438 *	US-PATENT-CLASS-156-DIG.62	c 33	N85-29142 *	US-PATENT-CLASS-156-289	c 24	N78-17150 *
US-PATENT-CLASS-148-187	c 33	N81-26360 *	US-PATENT-CLASS-156-DIG.64	c 76	N79-11920 *	US-PATENT-CLASS-156-289	c 52	N84-28389 *
US-PATENT-CLASS-148-187	c 35	N87-14671 *	US-PATENT-CLASS-156-DIG.64	c 44	N80-24741 *	US-PATENT-CLASS-156-289	c 37	N87-23981 *
US-PATENT-CLASS-148-188	c 24	N71-10560 *	US-PATENT-CLASS-156-DIG.64	c 76	N80-32245 *	US-PATENT-CLASS-156-290	c 24	N81-33235 *
US-PATENT-CLASS-148-188	c 09	N71-12513 *	US-PATENT-CLASS-156-DIG.64	c 76	N84-35113 *	US-PATENT-CLASS-156-292	c 27	N80-32516 *
US-PATENT-CLASS-148-188	c 44	N79-11468 *	US-PATENT-CLASS-156-DIG.65	c 76	N79-11920 *	US-PATENT-CLASS-156-292	c 24	N81-17170 *
US-PATENT-CLASS-148-188	c 35	N87-14671 *	US-PATENT-CLASS-156-DIG.65	c 76	N85-30922 *	US-PATENT-CLASS-156-294	c 37	N81-14317 *
US-PATENT-CLASS-148-189	c 35	N87-14671 *	US-PATENT-CLASS-156-DIG.6	c 76	N83-35888 *	US-PATENT-CLASS-156-294	c 24	N81-29163 *
US-PATENT-CLASS-148-190	c 35	N87-14671 *	US-PATENT-CLASS-156-DIG.70	c 76	N88-24544 *	US-PATENT-CLASS-156-294	c 35	N84-12443 *
US-PATENT-CLASS-148-20.3	c 26	N77-20201 *	US-PATENT-CLASS-156-DIG.70	c 76	N88-24544 *	US-PATENT-CLASS-156-295	c 27	N81-14077 *
US-PATENT-CLASS-148-2	c 26	N77-20201 *	US-PATENT-CLASS-156-DIG.72	c 76	N88-24544 *	US-PATENT-CLASS-156-297	c 27	N89-12741 *
US-PATENT-CLASS-148-2	c 26	N79-22271 *	US-PATENT-CLASS-156-DIG.72	c 76	N88-24545 *	US-PATENT-CLASS-156-298	c 37	N87-23981 *
US-PATENT-CLASS-148-32	c 26	N78-18183 *	US-PATENT-CLASS-156-DIG.73	c 76	N83-35888 *	US-PATENT-CLASS-156-299	c 27	N89-12741 *
US-PATENT-CLASS-148-32.5	c 17	N72-22535 *	US-PATENT-CLASS-156-DIG.73	c 27	N83-36220 *	US-PATENT-CLASS-156-300	c 24	N78-17150 *
US-PATENT-CLASS-148-32.5	c 26	N77-20201 *	US-PATENT-CLASS-156-DIG.82	c 76	N88-24544 *	US-PATENT-CLASS-156-303	c 44	N80-18550 *
US-PATENT-CLASS-148-32.5	c 26	N77-32280 *	US-PATENT-CLASS-156-DIG.82	c 76	N88-24545 *	US-PATENT-CLASS-156-304.3	c 27	N84-22748 *
US-PATENT-CLASS-148-32.5	c 26	N78-18183 *	US-PATENT-CLASS-156-DIG.84	c 76	N88-24545 *	US-PATENT-CLASS-156-306.6	c 27	N84-22748 *
US-PATENT-CLASS-148-32	c 26	N77-32279 *	US-PATENT-CLASS-156-DIG.88	c 76	N79-11920 *	US-PATENT-CLASS-156-306	c 24	N78-17150 *
US-PATENT-CLASS-148-32	c 26	N80-23419 *	US-PATENT-CLASS-156-DIG.88	c 76	N80-32245 *	US-PATENT-CLASS-156-307.1	c 37	N87-23981 *
US-PATENT-CLASS-148-33.2	c 76	N85-30922 *	US-PATENT-CLASS-156-DIG.88	c 76	N84-35113 *	US-PATENT-CLASS-156-307.3	c 27	N82-11206 *
US-PATENT-CLASS-148-410	c 26	N87-28647 *	US-PATENT-CLASS-156-DIG.88	c 76	N85-30922 *	US-PATENT-CLASS-156-307.3	c 37	N87-23981 *
US-PATENT-CLASS-148-428	c 26	N82-31505 *	US-PATENT-CLASS-156-DIG.89	c 76	N86-28760 *	US-PATENT-CLASS-156-307.7	c 27	N82-11206 *
US-PATENT-CLASS-148-429	c 26	N87-14482 *	US-PATENT-CLASS-156-DIG.89	c 27	N83-36220 *	US-PATENT-CLASS-156-307.7	c 37	N87-23981 *
US-PATENT-CLASS-148-6.11	c 15	N71-24875 *	US-PATENT-CLASS-156-DIG.89	c 76	N88-24545 *	US-PATENT-CLASS-156-307.7	c 35	N88-30108 *
US-PATENT-CLASS-148-6.16	c 18	N71-23047 *	US-PATENT-CLASS-156-DIG.92	c 76	N88-24545 *	US-PATENT-CLASS-156-307	c 27	N86-20561 *
US-PATENT-CLASS-148-6.20	c 17	N71-23828 *	US-PATENT-CLASS-156-DIG.96	c 76	N80-32244 *	US-PATENT-CLASS-156-308	c 05	N72-25121 *
US-PATENT-CLASS-148-6.3	c 17	N71-33408 *	US-PATENT-CLASS-156-DIG.96	c 33	N81-19389 *	US-PATENT-CLASS-156-309.9	c 27	N86-20561 *
US-PATENT-CLASS-148-6.3	c 44	N79-18444 *	US-PATENT-CLASS-156-DIG.98	c 76	N84-35113 *	US-PATENT-CLASS-156-309	c 31	N74-18089 *
US-PATENT-CLASS-148-6.3	c 26	N87-25455 *	US-PATENT-CLASS-156-104	c 44	N80-18550 *	US-PATENT-CLASS-156-309	c 27	N78-17205 *
US-PATENT-CLASS-148-6	c 18	N71-29040 *	US-PATENT-CLASS-156-154	c 24	N78-17150 *	US-PATENT-CLASS-156-311	c 24	N78-17150 *
US-PATENT-CLASS-148-6	c 76	N79-16678 *	US-PATENT-CLASS-156-154	c 27	N81-14077 *	US-PATENT-CLASS-156-312	c 44	N80-18550 *
US-PATENT-CLASS-149-105	c 28	N78-31255 *	US-PATENT-CLASS-156-157	c 33	N82-26571 *	US-PATENT-CLASS-156-315	c 27	N82-24340 *
US-PATENT-CLASS-149-108.4	c 28	N80-23471 *	US-PATENT-CLASS-156-160	c 27	N81-14077 *	US-PATENT-CLASS-156-320	c 15	N72-11392 *
US-PATENT-CLASS-149-108.4	c 28	N81-15119 *	US-PATENT-CLASS-156-161	c 24	N81-29163 *	US-PATENT-CLASS-156-323	c 27	N81-14077 *
US-PATENT-CLASS-149-109	c 27	N70-41897 *	US-PATENT-CLASS-156-163	c 27	N81-14077 *	US-PATENT-CLASS-156-329	c 27	N82-29456 *
US-PATENT-CLASS-149-111	c 28	N78-31255 *	US-PATENT-CLASS-156-163	c 74	N87-28416 *	US-PATENT-CLASS-156-330	c 24	N81-14000 *
US-PATENT-CLASS-149-15	c 44	N80-20808 *	US-PATENT-CLASS-156-165	c 24	N81-29163 *	US-PATENT-CLASS-156-331.5	c 27	N82-11206 *
US-PATENT-CLASS-149-17	c 28	N74-33209 *	US-PATENT-CLASS-156-166	c 74	N85-29749 *	US-PATENT-CLASS-156-331.5	c 27	N86-20561 *

US-PATENT-CLASS-156-338	c 27	N82-24340 *	US-PATENT-CLASS-156-87	c 37	N87-23981 *	US-PATENT-CLASS-165-105	c 37	N79-28549 *
US-PATENT-CLASS-156-344	c 28	N81-14103 *	US-PATENT-CLASS-156-89	c 37	N75-15992 *	US-PATENT-CLASS-165-105	c 34	N79-31523 *
US-PATENT-CLASS-156-344	c 31	N83-34073 *	US-PATENT-CLASS-156-89	c 24	N79-25143 *	US-PATENT-CLASS-165-105	c 35	N81-14287 *
US-PATENT-CLASS-156-345	c 15	N70-42033 *	US-PATENT-CLASS-156-90	c 27	N84-22748 *	US-PATENT-CLASS-165-106	c 33	N73-32818 *
US-PATENT-CLASS-156-345	c 31	N87-21160 *	US-PATENT-CLASS-156-904	c 31	N87-21160 *	US-PATENT-CLASS-165-106	c 34	N76-17317 *
US-PATENT-CLASS-156-379.7	c 33	N82-26571 *	US-PATENT-CLASS-156-905	c 35	N84-22930 *	US-PATENT-CLASS-165-107	c 09	N71-24807 *
US-PATENT-CLASS-156-380.2	c 31	N85-29083 *	US-PATENT-CLASS-156-94	c 32	N74-27612 *	US-PATENT-CLASS-165-107	c 44	N77-32581 *
US-PATENT-CLASS-156-382	c 37	N76-21554 *	US-PATENT-CLASS-156-94	c 24	N74-30001 *	US-PATENT-CLASS-165-109	c 35	N74-15093 *
US-PATENT-CLASS-156-382	c 52	N84-28389 *	US-PATENT-CLASS-156-99	c 37	N75-15992 *	US-PATENT-CLASS-165-110	c 44	N76-31667 *
US-PATENT-CLASS-156-382	c 74	N87-28416 *	US-PATENT-CLASS-159-3	c 25	N88-23846 *	US-PATENT-CLASS-165-110	c 77	N75-20139 *
US-PATENT-CLASS-156-391	c 35	N84-12443 *	US-PATENT-CLASS-159-48.2	c 25	N88-23846 *	US-PATENT-CLASS-165-111	c 77	N75-20139 *
US-PATENT-CLASS-156-3	c 17	N71-16044 *	US-PATENT-CLASS-159-90.00	c 25	N88-23846 *	US-PATENT-CLASS-165-12	c 33	N71-24276 *
US-PATENT-CLASS-156-3	c 15	N71-21404 *	US-PATENT-CLASS-16-242	c 31	N86-19479 *	US-PATENT-CLASS-165-12	c 34	N83-34221 *
US-PATENT-CLASS-156-3	c 15	N71-24047 *	US-PATENT-CLASS-16-292	c 18	N88-23827 *	US-PATENT-CLASS-165-133	c 33	N71-16277 *
US-PATENT-CLASS-156-3	c 06	N72-21094 *	US-PATENT-CLASS-16-294	c 37	N86-19605 *	US-PATENT-CLASS-165-133	c 33	N71-25353 *
US-PATENT-CLASS-156-423	c 35	N84-12443 *	US-PATENT-CLASS-16-294	c 18	N87-14373 *	US-PATENT-CLASS-165-133	c 33	N72-20915 *
US-PATENT-CLASS-156-494	c 74	N87-28416 *	US-PATENT-CLASS-16-296	c 18	N88-23827 *	US-PATENT-CLASS-165-133	c 44	N76-23675 *
US-PATENT-CLASS-156-499	c 27	N84-22748 *	US-PATENT-CLASS-16-326	c 18	N88-23827 *	US-PATENT-CLASS-165-134R	c 74	N83-19596 *
US-PATENT-CLASS-156-510	c 15	N71-17687 *	US-PATENT-CLASS-16-332	c 18	N88-23827 *	US-PATENT-CLASS-165-134	c 34	N78-17336 *
US-PATENT-CLASS-156-510	c 03	N72-25019 *	US-PATENT-CLASS-16-345	c 18	N88-23827 *	US-PATENT-CLASS-165-135	c 34	N84-22903 *
US-PATENT-CLASS-156-52	c 31	N79-21226 *	US-PATENT-CLASS-16-347	c 18	N88-23827 *	US-PATENT-CLASS-165-138	c 09	N71-24807 *
US-PATENT-CLASS-156-540	c 35	N84-12443 *	US-PATENT-CLASS-16-349	c 18	N88-23827 *	US-PATENT-CLASS-165-138	c 34	N88-23958 *
US-PATENT-CLASS-156-545	c 15	N71-24164 *	US-PATENT-CLASS-16-370	c 18	N87-14373 *	US-PATENT-CLASS-165-141	c 28	N73-32606 *
US-PATENT-CLASS-156-556	c 37	N76-21554 *	US-PATENT-CLASS-16-390	c 31	N86-19479 *	US-PATENT-CLASS-165-146	c 34	N79-13289 *
US-PATENT-CLASS-156-59	c 31	N83-34073 *	US-PATENT-CLASS-160-23R	c 37	N87-17036 *	US-PATENT-CLASS-165-155	c 33	N72-20915 *
US-PATENT-CLASS-156-600	c 27	N83-36220 *	US-PATENT-CLASS-160-265	c 37	N87-17036 *	US-PATENT-CLASS-165-158	c 33	N72-20915 *
US-PATENT-CLASS-156-601	c 76	N77-32919 *	US-PATENT-CLASS-161-115	c 18	N70-41583 *	US-PATENT-CLASS-165-161	c 33	N72-20915 *
US-PATENT-CLASS-156-601	c 76	N80-32245 *	US-PATENT-CLASS-161-116	c 37	N74-23064 *	US-PATENT-CLASS-165-164	c 34	N77-10463 *
US-PATENT-CLASS-156-602	c 76	N82-30105 *	US-PATENT-CLASS-161-127	c 18	N72-25540 *	US-PATENT-CLASS-165-166	c 54	N77-32722 *
US-PATENT-CLASS-156-605	c 44	N80-24741 *	US-PATENT-CLASS-161-127	c 18	N72-25541 *	US-PATENT-CLASS-165-169	c 34	N79-13288 *
US-PATENT-CLASS-156-607	c 76	N87-23286 *	US-PATENT-CLASS-161-161	c 33	N71-25351 *	US-PATENT-CLASS-165-169	c 34	N79-13289 *
US-PATENT-CLASS-156-607	c 76	N88-24544 *	US-PATENT-CLASS-161-182	c 15	N69-39735 *	US-PATENT-CLASS-165-16	c 31	N80-32583 *
US-PATENT-CLASS-156-608	c 76	N79-11920 *	US-PATENT-CLASS-161-182	c 37	N74-18126 *	US-PATENT-CLASS-165-170	c 34	N77-10463 *
US-PATENT-CLASS-156-608	c 33	N81-19389 *	US-PATENT-CLASS-161-189	c 23	N71-15978 *	US-PATENT-CLASS-165-170	c 34	N88-29132 *
US-PATENT-CLASS-156-608	c 76	N82-30105 *	US-PATENT-CLASS-161-192	c 37	N74-18126 *	US-PATENT-CLASS-165-174	c 33	N72-20915 *
US-PATENT-CLASS-156-608	c 76	N83-20789 *	US-PATENT-CLASS-161-196	c 37	N74-21063 *	US-PATENT-CLASS-165-185	c 28	N73-32606 *
US-PATENT-CLASS-156-608	c 76	N83-35888 *	US-PATENT-CLASS-161-214	c 06	N73-27980 *	US-PATENT-CLASS-165-185	c 34	N83-28356 *
US-PATENT-CLASS-156-608	c 76	N84-35113 *	US-PATENT-CLASS-161-227	c 06	N73-27980 *	US-PATENT-CLASS-165-1	c 09	N70-41717 *
US-PATENT-CLASS-156-60	c 15	N71-22713 *	US-PATENT-CLASS-161-42	c 37	N74-18126 *	US-PATENT-CLASS-165-1	c 34	N75-12222 *
US-PATENT-CLASS-156-610	c 76	N76-25049 *	US-PATENT-CLASS-161-43	c 37	N74-18126 *	US-PATENT-CLASS-165-1	c 34	N85-29180 *
US-PATENT-CLASS-156-610	c 27	N83-36220 *	US-PATENT-CLASS-161-67	c 33	N72-17947 *	US-PATENT-CLASS-165-1	c 34	N87-22950 *
US-PATENT-CLASS-156-610	c 76	N86-28760 *	US-PATENT-CLASS-161-68	c 18	N71-21651 *	US-PATENT-CLASS-165-1	c 34	N88-23958 *
US-PATENT-CLASS-156-612	c 76	N76-25049 *	US-PATENT-CLASS-161-68	c 18	N72-25540 *	US-PATENT-CLASS-165-20	c 03	N72-28025 *
US-PATENT-CLASS-156-612	c 44	N76-28635 *	US-PATENT-CLASS-161-68	c 18	N72-25541 *	US-PATENT-CLASS-165-2	c 33	N71-24876 *
US-PATENT-CLASS-156-612	c 76	N85-30922 *	US-PATENT-CLASS-161-69	c 33	N71-24858 *	US-PATENT-CLASS-165-2	c 35	N74-15093 *
US-PATENT-CLASS-156-613	c 76	N76-25049 *	US-PATENT-CLASS-161-7	c 18	N72-25540 *	US-PATENT-CLASS-165-2	c 44	N77-32581 *
US-PATENT-CLASS-156-613	c 44	N76-28635 *	US-PATENT-CLASS-161-7	c 18	N72-25541 *	US-PATENT-CLASS-165-2	c 44	N78-17460 *
US-PATENT-CLASS-156-614	c 44	N76-28635 *	US-PATENT-CLASS-161-89	c 17	N71-28747 *	US-PATENT-CLASS-165-2	c 51	N79-10694 *
US-PATENT-CLASS-156-617-H	c 76	N87-23286 *	US-PATENT-CLASS-161-92	c 37	N75-26371 *	US-PATENT-CLASS-165-2	c 27	N83-36220 *
US-PATENT-CLASS-156-617-SP	c 76	N84-35113 *	US-PATENT-CLASS-161-93	c 18	N73-12604 *	US-PATENT-CLASS-165-30	c 51	N79-10694 *
US-PATENT-CLASS-156-617-SP	c 76	N87-23286 *	US-PATENT-CLASS-161-93	c 37	N74-18126 *	US-PATENT-CLASS-165-30	c 31	N79-17029 *
US-PATENT-CLASS-156-617-V	c 76	N84-35113 *	US-PATENT-CLASS-161-93	c 37	N75-26371 *	US-PATENT-CLASS-165-30	c 35	N86-20750 *
US-PATENT-CLASS-156-617SP	c 76	N79-11920 *	US-PATENT-CLASS-162-102	c 24	N76-14204 *	US-PATENT-CLASS-165-32	c 31	N73-30829 *
US-PATENT-CLASS-156-617SP	c 76	N79-23798 *	US-PATENT-CLASS-162-14	c 85	N79-17747 *	US-PATENT-CLASS-165-32	c 33	N73-32818 *
US-PATENT-CLASS-156-617SP	c 44	N80-24741 *	US-PATENT-CLASS-162-153	c 24	N76-14204 *	US-PATENT-CLASS-165-32	c 34	N78-17337 *
US-PATENT-CLASS-156-617SP	c 76	N80-32245 *	US-PATENT-CLASS-162-222	c 24	N76-14204 *	US-PATENT-CLASS-165-32	c 34	N79-31523 *
US-PATENT-CLASS-156-619	c 76	N77-32919 *	US-PATENT-CLASS-162-228	c 24	N76-14204 *	US-PATENT-CLASS-165-32	c 44	N80-20810 *
US-PATENT-CLASS-156-620.76	c 76	N88-24545 *	US-PATENT-CLASS-162-29	c 85	N79-17747 *	US-PATENT-CLASS-165-32	c 33	N82-24419 *
US-PATENT-CLASS-156-620	c 76	N77-32919 *	US-PATENT-CLASS-164-105	c 20	N79-21123 *	US-PATENT-CLASS-165-32	c 34	N83-28356 *
US-PATENT-CLASS-156-621	c 76	N88-14835 *	US-PATENT-CLASS-164-119	c 24	N84-16262 *	US-PATENT-CLASS-165-32	c 34	N83-35307 *
US-PATENT-CLASS-156-621	c 76	N88-24544 *	US-PATENT-CLASS-164-132	c 37	N76-23570 *	US-PATENT-CLASS-165-32	c 34	N84-14461 *
US-PATENT-CLASS-156-622	c 76	N88-14835 *	US-PATENT-CLASS-164-331.12	c 27	N83-34041 *	US-PATENT-CLASS-165-32	c 34	N85-29179 *
US-PATENT-CLASS-156-623Q	c 76	N85-29800 *	US-PATENT-CLASS-164-60	c 24	N77-27187 *	US-PATENT-CLASS-165-34	c 34	N87-22950 *
US-PATENT-CLASS-156-624	c 76	N83-20789 *	US-PATENT-CLASS-165-DIG.6	c 34	N84-22903 *	US-PATENT-CLASS-165-3	c 03	N72-28025 *
US-PATENT-CLASS-156-624	c 76	N86-28760 *	US-PATENT-CLASS-165-104.14	c 05	N81-26114 *	US-PATENT-CLASS-165-41	c 34	N84-14461 *
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US-PATENT-CLASS-156-624	c 76	N88-24544 *	US-PATENT-CLASS-165-104.14	c 34	N86-27593 *	US-PATENT-CLASS-165-44	c 15	N71-26611 *
US-PATENT-CLASS-156-630	c 35	N84-22930 *	US-PATENT-CLASS-165-104.14	c 34	N87-22950 *	US-PATENT-CLASS-165-46	c 05	N71-19439 *
US-PATENT-CLASS-156-633	c 44	N78-25529 *	US-PATENT-CLASS-165-104.14	c 34	N88-23958 *	US-PATENT-CLASS-165-46	c 05	N71-24147 *
US-PATENT-CLASS-156-635	c 76	N83-20789 *	US-PATENT-CLASS-165-104.14	c 34	N89-14392 *	US-PATENT-CLASS-165-46	c 05	N73-20137 *
US-PATENT-CLASS-156-643	c 52	N84-23095 *	US-PATENT-CLASS-165-104.25	c 34	N87-22950 *	US-PATENT-CLASS-165-46	c 05	N73-26071 *
US-PATENT-CLASS-156-643	c 31	N87-21160 *	US-PATENT-CLASS-165-104.26	c 74	N83-19596 *	US-PATENT-CLASS-165-46	c 54	N82-29002 *
US-PATENT-CLASS-156-644	c 52	N84-23095 *	US-PATENT-CLASS-165-104.26	c 34	N83-35307 *	US-PATENT-CLASS-165-47	c 33	N71-29052 *
US-PATENT-CLASS-156-645	c 27	N77-32308 *	US-PATENT-CLASS-165-104.26	c 34	N85-21568 *	US-PATENT-CLASS-165-47	c 31	N73-30829 *
US-PATENT-CLASS-156-646	c 31	N87-21160 *	US-PATENT-CLASS-165-104.26	c 34	N85-29180 *	US-PATENT-CLASS-165-47	c 34	N75-12222 *
US-PATENT-CLASS-156-647	c 33	N81-26360 *	US-PATENT-CLASS-165-104.26	c 34	N86-27593 *	US-PATENT-CLASS-165-48R	c 35	N85-29214 *
US-PATENT-CLASS-156-648	c 33	N81-26360 *	US-PATENT-CLASS-165-104.26	c 34	N87-22950 *	US-PATENT-CLASS-165-58	c 27	N83-36220 *
US-PATENT-CLASS-156-649	c 33	N81-26360 *	US-PATENT-CLASS-165-104.26	c 34	N88-29133 *	US-PATENT-CLASS-165-61	c 34	N83-34221 *
US-PATENT-CLASS-156-654	c 76	N83-20789 *	US-PATENT-CLASS-165-104.26	c 34	N89-14392 *	US-PATENT-CLASS-165-61	c 35	N85-29214 *
US-PATENT-CLASS-156-654	c 35	N84-22930 *	US-PATENT-CLASS-165-104	c 33	N71-25353 *	US-PATENT-CLASS-165-61	c 35	N86-20750 *
US-PATENT-CLASS-156-659.1	c 31	N87-21160 *	US-PATENT-CLASS-165-105	c 09	N71-24807 *	US-PATENT-CLASS-165-61	c 31	N89-12785 *
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US-PATENT-CLASS-156-662	c 76	N83-20789 *	US-PATENT-CLASS-165-105	c 33	N72-17948 *	US-PATENT-CLASS-165-64	c 35	N86-20750 *
US-PATENT-CLASS-156-663	c 27	N77-32308 *	US-PATENT-CLASS-165-105	c 31	N73-30829 *	US-PATENT-CLASS-165-76	c 34	N83-28356 *
US-PATENT-CLASS-156-668	c 52	N84-23095 *	US-PATENT-CLASS-165-105	c 28	N73-32606 *	US-PATENT-CLASS-165-76	c 37	N86-32726 *
US-PATENT-CLASS-156-66	c 15	N72-11392 *	US-PATENT-CLASS-165-105	c 34	N74-18552 *	US-PATENT-CLASS-165-80E	c 34	N83-34221 *
US-PATENT-CLASS-156-71	c 33	N82-26571 *	US-PATENT-CLASS-165-105	c 34	N75-12222 *	US-PATENT-CLASS-165-81	c 34	N88-29132 *
US-PATENT-CLASS-156-71	c 35	N84-12443 *	US-PATENT-CLASS-165-105	c 44	N75-32581 *	US-PATENT-CLASS-165-86	c 15	N71-26611 *
US-PATENT-CLASS-156-74	c 24	N81-29163 *	US-PATENT-CLASS-165-105	c 44	N76-16612 *	US-PATENT-CLASS-165-86	c 33	N71-29046 *
US-PATENT-CLASS-156-7	c 74	N75-12732 *	US-PATENT-CLASS-165-105	c 34	N76-17317 *	US-PATENT-CLASS-165-904	c 35	N89-12048 *
US-PATENT-CLASS-156-81	c 27	N84-22748 *	US-PATENT-CLASS-165-105	c 34	N76-27515 *	US-PATENT-CLASS-165-905	c 34	N88-29133 *
US-PATENT-CLASS-156-84	c 15	N72-16330 *	US-PATENT-CLASS-165-105	c 34	N77-32413 *	US-PATENT-CLASS-165-96	c 33	N70-36847 *
US-PATENT-CLASS-156-84	c 37	N82-24491 *	US-PATENT-CLASS-165-105	c 25	N78-10224 *	US-PATENT-CLASS-165-96	c 33	N71-22890 *
US-PATENT-CLASS-156-85	c 37	N82-24491 *	US-PATENT-CLASS-165-105	c 34	N78-17336 *	US-PATENT-CLASS-165-96	c 31	N73-30829 *
US-PATENT-CLASS-156-86	c 15	N72-16330 *	US-PATENT-CLASS-165-105	c 34	N78-17337 *	US-PATENT-CLASS-165-96	c 33	N73-32818 *
US-PATENT-CLASS-156-86	c 37	N82-24491 *	US-PATENT-CLASS-165-105	c 44	N79-18443 *			

US-PATENT-CLASS-165-96	c 34	N78-17337 *	US-PATENT-CLASS-178-18	c 10	N73-32143 *	US-PATENT-CLASS-179-100.2CH	c 35	N79-16246 *
US-PATENT-CLASS-165-96	c 34	N84-14461 *	US-PATENT-CLASS-178-22.16	c 32	N82-31583 *	US-PATENT-CLASS-179-100.2C	c 35	N77-21392 *
US-PATENT-CLASS-165-96	c 31	N89-12785 *	US-PATENT-CLASS-178-22.17	c 32	N82-31583 *	US-PATENT-CLASS-179-100.2K	c 07	N72-11119 *
US-PATENT-CLASS-166-222	c 43	N81-26509 *	US-PATENT-CLASS-178-5.2R	c 09	N71-28618 *	US-PATENT-CLASS-179-100.2MD	c 35	N74-11283 *
US-PATENT-CLASS-166-248	c 43	N78-14452 *	US-PATENT-CLASS-178-5.2R	c 07	N72-17109 *	US-PATENT-CLASS-179-100.2T	c 35	N74-11283 *
US-PATENT-CLASS-166-259	c 43	N78-14452 *	US-PATENT-CLASS-178-5.4	c 07	N72-17109 *	US-PATENT-CLASS-179-100.2	c 09	N69-24329 *
US-PATENT-CLASS-166-267	c 25	N82-23282 *	US-PATENT-CLASS-178-5.8R	c 71	N74-21014 *	US-PATENT-CLASS-179-100.2	c 09	N71-25866 *
US-PATENT-CLASS-166-303	c 25	N82-23282 *	US-PATENT-CLASS-178-50	c 08	N72-18184 *	US-PATENT-CLASS-179-100.2	c 08	N71-27210 *
US-PATENT-CLASS-166-63	c 46	N79-22679 *	US-PATENT-CLASS-178-50	c 08	N72-25208 *	US-PATENT-CLASS-179-100.2	c 08	N71-27255 *
US-PATENT-CLASS-166-77	c 43	N81-26509 *	US-PATENT-CLASS-178-52	c 08	N72-22162 *	US-PATENT-CLASS-179-100.2CA	c 09	N72-11224 *
US-PATENT-CLASS-169-28	c 12	N72-21310 *	US-PATENT-CLASS-178-54CF	c 09	N71-28618 *	US-PATENT-CLASS-179-100.2MD	c 09	N72-11224 *
US-PATENT-CLASS-169-36	c 12	N72-21310 *	US-PATENT-CLASS-178-54PE	c 09	N71-28618 *	US-PATENT-CLASS-179-107R	c 33	N78-10375 *
US-PATENT-CLASS-169-47	c 25	N83-36118 *	US-PATENT-CLASS-178-58A	c 32	N75-21486 *	US-PATENT-CLASS-179-15.55R	c 08	N72-11171 *
US-PATENT-CLASS-169-62	c 31	N81-14137 *	US-PATENT-CLASS-178-58R	c 32	N80-18252 *	US-PATENT-CLASS-179-15.55R	c 08	N72-33172 *
US-PATENT-CLASS-169-70	c 31	N81-14137 *	US-PATENT-CLASS-178-6.5	c 23	N72-27728 *	US-PATENT-CLASS-179-15A	c 07	N73-16121 *
US-PATENT-CLASS-173-131	c 15	N73-13463 *	US-PATENT-CLASS-178-6.5	c 07	N73-30115 *	US-PATENT-CLASS-179-15AT	c 32	N74-30524 *
US-PATENT-CLASS-173-132	c 37	N76-18454 *	US-PATENT-CLASS-178-6.5	c 35	N74-11283 *	US-PATENT-CLASS-179-15A	c 08	N72-22162 *
US-PATENT-CLASS-174-DIG.6	c 26	N73-26752 *	US-PATENT-CLASS-178-6.6	c 07	N71-12800 *	US-PATENT-CLASS-179-15A	c 07	N73-26118 *
US-PATENT-CLASS-174-DIG.6	c 26	N73-32571 *	US-PATENT-CLASS-178-6.6	c 07	N71-26102 *	US-PATENT-CLASS-179-15A	c 60	N77-12721 *
US-PATENT-CLASS-174-DIG.8	c 33	N74-22865 *	US-PATENT-CLASS-178-6.7R	c 35	N74-15831 *	US-PATENT-CLASS-179-15A	c 32	N80-18252 *
US-PATENT-CLASS-174-106R	c 09	N72-22198 *	US-PATENT-CLASS-178-6.7	c 07	N72-17109 *	US-PATENT-CLASS-179-15BC	c 08	N72-25208 *
US-PATENT-CLASS-174-110.3	c 14	N71-27186 *	US-PATENT-CLASS-178-6.8	c 08	N72-22164 *	US-PATENT-CLASS-179-15BC	c 07	N73-16121 *
US-PATENT-CLASS-174-111	c 33	N74-27683 *	US-PATENT-CLASS-178-6.8	c 14	N72-25412 *	US-PATENT-CLASS-179-15BC	c 32	N74-30523 *
US-PATENT-CLASS-174-115	c 09	N70-38201 *	US-PATENT-CLASS-178-6.8	c 07	N73-30115 *	US-PATENT-CLASS-179-15BC	c 33	N75-26243 *
US-PATENT-CLASS-174-117FF	c 09	N72-22198 *	US-PATENT-CLASS-178-6.8	c 33	N75-30431 *	US-PATENT-CLASS-179-15BL	c 08	N72-22162 *
US-PATENT-CLASS-174-126CP	c 26	N73-32571 *	US-PATENT-CLASS-178-6.8	c 45	N76-17656 *	US-PATENT-CLASS-179-15BL	c 07	N73-26118 *
US-PATENT-CLASS-174-142	c 33	N80-18286 *	US-PATENT-CLASS-178-6.8	c 32	N75-24981 *	US-PATENT-CLASS-179-15BL	c 10	N71-33407 *
US-PATENT-CLASS-174-145	c 33	N76-16332 *	US-PATENT-CLASS-178-66	c 09	N71-25866 *	US-PATENT-CLASS-179-15BL	c 07	N72-20140 *
US-PATENT-CLASS-174-148	c 33	N76-16332 *	US-PATENT-CLASS-178-66	c 08	N72-18184 *	US-PATENT-CLASS-179-15BL	c 07	N73-30115 *
US-PATENT-CLASS-174-15CA	c 31	N79-17029 *	US-PATENT-CLASS-178-67	c 08	N70-41961 *	US-PATENT-CLASS-179-15BL	c 32	N75-26195 *
US-PATENT-CLASS-174-15C	c 33	N74-27683 *	US-PATENT-CLASS-178-67	c 32	N74-26654 *	US-PATENT-CLASS-179-15BL	c 60	N77-19760 *
US-PATENT-CLASS-174-18	c 09	N69-21542 *	US-PATENT-CLASS-178-69.1	c 32	N78-15323 *	US-PATENT-CLASS-179-15BL	c 07	N72-25172 *
US-PATENT-CLASS-174-28	c 07	N71-27191 *	US-PATENT-CLASS-178-69.4R	c 32	N74-10132 *	US-PATENT-CLASS-179-15BL	c 32	N74-30524 *
US-PATENT-CLASS-174-28	c 33	N74-27683 *	US-PATENT-CLASS-178-69.5R	c 07	N72-20140 *	US-PATENT-CLASS-179-15FD	c 08	N72-25208 *
US-PATENT-CLASS-174-35	c 07	N71-19436 *	US-PATENT-CLASS-178-69.5R	c 32	N75-26195 *	US-PATENT-CLASS-179-15FS	c 07	N73-28012 *
US-PATENT-CLASS-174-36	c 09	N72-22198 *	US-PATENT-CLASS-178-69.5R	c 33	N76-14371 *	US-PATENT-CLASS-179-15	c 07	N69-39978 *
US-PATENT-CLASS-174-52-PE	c 33	N88-23941 *	US-PATENT-CLASS-178-69.5R	c 60	N77-19760 *	US-PATENT-CLASS-179-15	c 07	N71-20814 *
US-PATENT-CLASS-174-52-R	c 33	N88-23941 *	US-PATENT-CLASS-178-69.5	c 07	N71-11281 *	US-PATENT-CLASS-179-15	c 07	N71-24621 *
US-PATENT-CLASS-174-52-S	c 33	N88-23941 *	US-PATENT-CLASS-178-69.5	c 10	N71-19468 *	US-PATENT-CLASS-179-15	c 07	N71-24622 *
US-PATENT-CLASS-174-52S	c 15	N73-14469 *	US-PATENT-CLASS-178-69.5	c 10	N71-25866 *	US-PATENT-CLASS-179-15	c 08	N72-18184 *
US-PATENT-CLASS-174-68.5	c 15	N70-41960 *	US-PATENT-CLASS-178-69.5	c 10	N71-33407 *	US-PATENT-CLASS-179-17.5.1A	c 14	N73-27379 *
US-PATENT-CLASS-174-69	c 33	N74-22865 *	US-PATENT-CLASS-178-69.5	c 07	N72-25173 *	US-PATENT-CLASS-179-17.5.1A	c 33	N78-10375 *
US-PATENT-CLASS-174-70R	c 33	N74-22865 *	US-PATENT-CLASS-178-69.5	c 07	N73-13149 *	US-PATENT-CLASS-179-18BC	c 32	N86-27513 *
US-PATENT-CLASS-174-72	c 03	N69-21539 *	US-PATENT-CLASS-178-69.5	c 09	N73-28084 *	US-PATENT-CLASS-179-18GC	c 33	N82-29538 *
US-PATENT-CLASS-174-73R	c 33	N80-18286 *	US-PATENT-CLASS-178-69.5	c 17	N76-22245 *	US-PATENT-CLASS-179-1	c 07	N71-26181 *
US-PATENT-CLASS-174-84	c 15	N72-17455 *	US-PATENT-CLASS-178-69A	c 35	N75-21582 *	US-PATENT-CLASS-179-1	c 31	N71-33160 *
US-PATENT-CLASS-175-1	c 46	N79-22679 *	US-PATENT-CLASS-178-69C	c 32	N76-16249 *	US-PATENT-CLASS-179-27CA	c 32	N79-23310 *
US-PATENT-CLASS-175-26	c 15	N73-32362 *	US-PATENT-CLASS-178-6	c 07	N71-19433 *	US-PATENT-CLASS-179-78	c 33	N81-27397 *
US-PATENT-CLASS-175-310	c 15	N70-42034 *	US-PATENT-CLASS-178-6	c 09	N71-19449 *	US-PATENT-CLASS-179-84VF	c 72	N79-23310 *
US-PATENT-CLASS-175-323	c 14	N69-21923 *	US-PATENT-CLASS-178-6	c 07	N71-23026 *	US-PATENT-CLASS-179-91R	c 34	N78-14889 *
US-PATENT-CLASS-175-45	c 35	N84-33768 *	US-PATENT-CLASS-178-6	c 07	N71-26579 *	US-PATENT-CLASS-18-26	c 06	N71-22975 *
US-PATENT-CLASS-175-78	c 46	N80-10709 *	US-PATENT-CLASS-178-6	c 07	N72-12081 *	US-PATENT-CLASS-18-39	c 27	N70-34783 *
US-PATENT-CLASS-176-11	c 24	N72-33681 *	US-PATENT-CLASS-178-6	c 16	N72-13437 *	US-PATENT-CLASS-18-6	c 15	N71-26721 *
US-PATENT-CLASS-176-11	c 25	N76-27383 *	US-PATENT-CLASS-178-6	c 10	N73-13235 *	US-PATENT-CLASS-180-105E	c 11	N72-20244 *
US-PATENT-CLASS-176-11	c 25	N76-29379 *	US-PATENT-CLASS-178-6	c 36	N74-20009 *	US-PATENT-CLASS-180-118	c 31	N71-15689 *
US-PATENT-CLASS-176-11	c 25	N78-27226 *	US-PATENT-CLASS-178-7.1	c 07	N71-24612 *	US-PATENT-CLASS-180-121	c 31	N71-15689 *
US-PATENT-CLASS-176-14	c 25	N76-29379 *	US-PATENT-CLASS-178-7.1	c 07	N71-27341 *	US-PATENT-CLASS-180-125	c 15	N72-17451 *
US-PATENT-CLASS-176-169	c 22	N73-32528 *	US-PATENT-CLASS-178-7.1	c 09	N72-17156 *	US-PATENT-CLASS-180-127	c 15	N72-17451 *
US-PATENT-CLASS-176-16	c 25	N76-27383 *	US-PATENT-CLASS-178-7.1	c 32	N74-19790 *	US-PATENT-CLASS-180-168	c 35	N84-33769 *
US-PATENT-CLASS-176-16	c 25	N76-29379 *	US-PATENT-CLASS-178-7.1	c 36	N75-19652 *	US-PATENT-CLASS-180-19.2	c 85	N87-21755 *
US-PATENT-CLASS-176-16	c 25	N78-27226 *	US-PATENT-CLASS-178-7.2R	c 08	N72-22164 *	US-PATENT-CLASS-180-305	c 85	N87-21755 *
US-PATENT-CLASS-176-22	c 73	N78-28913 *	US-PATENT-CLASS-178-7.2	c 14	N70-41807 *	US-PATENT-CLASS-180-41	c 11	N73-26238 *
US-PATENT-CLASS-176-33	c 73	N78-28913 *	US-PATENT-CLASS-178-7.2	c 71	N74-21014 *	US-PATENT-CLASS-180-6.5	c 11	N73-26238 *
US-PATENT-CLASS-176-39	c 73	N78-19920 *	US-PATENT-CLASS-178-7.2	c 35	N75-25123 *	US-PATENT-CLASS-180-7R	c 11	N73-26238 *
US-PATENT-CLASS-176-39	c 73	N78-28913 *	US-PATENT-CLASS-178-7.3	c 07	N71-27341 *	US-PATENT-CLASS-180-79.3	c 37	N74-18125 *
US-PATENT-CLASS-176-3	c 75	N75-13625 *	US-PATENT-CLASS-178-7.3	c 07	N72-12081 *	US-PATENT-CLASS-180-8.6	c 18	N88-23828 *
US-PATENT-CLASS-176-45	c 22	N71-28759 *	US-PATENT-CLASS-178-7.5E	c 10	N72-31273 *	US-PATENT-CLASS-180-8A	c 11	N73-26238 *
US-PATENT-CLASS-176-86G	c 22	N72-20597 *	US-PATENT-CLASS-178-7.6	c 36	N74-20009 *	US-PATENT-CLASS-180-9.2R	c 11	N73-26238 *
US-PATENT-CLASS-177-147	c 35	N85-20294 *	US-PATENT-CLASS-178-7.7	c 09	N71-12539 *	US-PATENT-CLASS-180-9.5	c 11	N73-26238 *
US-PATENT-CLASS-177-1	c 35	N77-19385 *	US-PATENT-CLASS-178-7.7	c 32	N74-20813 *	US-PATENT-CLASS-181.5R	c 71	N74-31148 *
US-PATENT-CLASS-177-200	c 35	N74-26945 *	US-PATENT-CLASS-178-7.89	c 09	N76-24280 *	US-PATENT-CLASS-181.5	c 11	N71-28779 *
US-PATENT-CLASS-177-208	c 35	N77-19385 *	US-PATENT-CLASS-178-7.92	c 14	N72-25414 *	US-PATENT-CLASS-181-0.5	c 71	N85-30765 *
US-PATENT-CLASS-177-210	c 14	N71-10773 *	US-PATENT-CLASS-178-79	c 32	N75-21486 *	US-PATENT-CLASS-181-0.5	c 71	N88-24241 *
US-PATENT-CLASS-177-211	c 35	N74-26945 *	US-PATENT-CLASS-178-88	c 07	N71-12392 *	US-PATENT-CLASS-181-102	c 39	N80-10507 *
US-PATENT-CLASS-177-246	c 35	N74-26945 *	US-PATENT-CLASS-178-88	c 33	N74-12887 *	US-PATENT-CLASS-181-102	c 31	N80-32584 *
US-PATENT-CLASS-177-260	c 35	N85-20294 *	US-PATENT-CLASS-178-88	c 32	N74-20809 *	US-PATENT-CLASS-181-105	c 39	N80-10507 *
US-PATENT-CLASS-178-DIG.12	c 07	N72-12081 *	US-PATENT-CLASS-178-88	c 33	N74-27705 *	US-PATENT-CLASS-181-106	c 46	N79-22679 *
US-PATENT-CLASS-178-DIG.12	c 32	N75-21485 *	US-PATENT-CLASS-178-88	c 33	N76-14371 *	US-PATENT-CLASS-181-115	c 46	N79-23555 *
US-PATENT-CLASS-178-DIG.1	c 36	N74-20009 *	US-PATENT-CLASS-178-88	c 32	N76-16249 *	US-PATENT-CLASS-181-117	c 46	N79-22679 *
US-PATENT-CLASS-178-DIG.1	c 33	N75-30431 *	US-PATENT-CLASS-178-88	c 32	N77-10392 *	US-PATENT-CLASS-181-120	c 46	N79-23555 *
US-PATENT-CLASS-178-DIG.1	c 45	N76-17656 *	US-PATENT-CLASS-178-88	c 32	N77-24331 *	US-PATENT-CLASS-181-121	c 35	N84-22933 *
US-PATENT-CLASS-178-DIG.20	c 18	N76-14186 *	US-PATENT-CLASS-179-1DM	c 71	N79-23753 *	US-PATENT-CLASS-181-148	c 71	N79-23753 *
US-PATENT-CLASS-178-DIG.20	c 23	N72-27728 *	US-PATENT-CLASS-179-1MF	c 71	N79-23753 *	US-PATENT-CLASS-181-190	c 71	N79-14871 *
US-PATENT-CLASS-178-DIG.20	c 35	N75-19613 *	US-PATENT-CLASS-179-1MN	c 32	N79-23310 *	US-PATENT-CLASS-181-213	c 71	N79-14871 *
US-PATENT-CLASS-178-DIG.21	c 16	N72-13437 *	US-PATENT-CLASS-179-1P	c 10	N73-12244 *	US-PATENT-CLASS-181-213	c 07	N83-33884 *
US-PATENT-CLASS-178-DIG.23	c 07	N73-30115 *	US-PATENT-CLASS-179-1R	c 07	N71-33108 *	US-PATENT-CLASS-181-214	c 07	N81-14999 *
US-PATENT-CLASS-178-DIG.25	c 74	N75-25706 *	US-PATENT-CLASS-179-1SA	c 10	N73-25240 *	US-PATENT-CLASS-181-214	c 71	N82-16800 *
US-PATENT-CLASS-178-DIG.28	c 08	N72-22164 *	US-PATENT-CLASS-179-1SA	c 32	N76-31372 *	US-PATENT-CLASS-181-222	c 71	N79-14871 *
US-PATENT-CLASS-178-DIG.29	c 35	N75-25123 *	US-PATENT-CLASS-179-1SA	c 32	N77-30309 *	US-PATENT-CLASS-181-293	c 71	N79-14871 *
US-PATENT-CLASS-178-DIG.32	c 71	N74-21014 *	US-PATENT-CLASS-179-1SP	c 32	N77-30309 *	US-PATENT-CLASS-181-33C	c 07	N74-32418 *
US-PATENT-CLASS-178-DIG.35	c 09	N76-24280 *	US-PATENT-CLASS-179-1VC	c 07	N71-33108 *	US-PATENT-CLASS-181-33F	c 07	N74-32418 *
US-PATENT-CLASS-178-DIG.36	c 08	N72-22164 *	US-PATENT-CLASS-179-100.2A	c 21	N73-13644 *	US-PATENT-CLASS-181-33HB	c 07	N74-27490 *
US-PATENT-CLASS-178-DIG.6	c 10	N73-13235 *	US-PATENT-CLASS-179-100.2A	c 32	N74-27612 *	US-PATENT-CLASS-181-33HC	c 07	N74-33218 *
US-PATENT-CLASS-178-DIG.8	c 14	N72-25412 *	US-PATENT-CLASS-179-100.2B	c 32	N74-27612 *	US-PATENT-CLASS-181-33HC	c 07	N76-18117 *
US-PATENT-CLASS-178-DIG.8	c 45	N76-17656 *	US-PATENT-CLASS-179-100.2CH	c 36	N74-13205 *	US-PATENT-CLASS-181-33H	c 07	N74-32418 *
US-PATENT-CLASS-178-15	c 33	N75-19517 *	US-PATENT-CLASS-179-100.2CH	c 35	N78-29421 *	US-PATENT-CLASS-181-33L	c 07	N74-32418 *

US-PATENT-CLASS-181-42	c 07	N74-32418 *	US-PATENT-CLASS-1	c 14	N71-27005 *	US-PATENT-CLASS-204-157.1H	c 25	N74-30502 *
US-PATENT-CLASS-181-43	c 07	N74-15453 *	US-PATENT-CLASS-2-115	c 05	N72-25119 *	US-PATENT-CLASS-204-157.1H	c 37	N76-18458 *
US-PATENT-CLASS-181-52	c 28	N70-41582 *	US-PATENT-CLASS-2-14	c 05	N71-23096 *	US-PATENT-CLASS-204-157.1R	c 25	N77-32255 *
US-PATENT-CLASS-182-103	c 18	N89-12621 *	US-PATENT-CLASS-2-161R	c 54	N84-23113 *	US-PATENT-CLASS-204-157.1R	c 44	N77-32255 *
US-PATENT-CLASS-182-10	c 15	N71-27067 *	US-PATENT-CLASS-2-161R	c 54	N84-28484 *	US-PATENT-CLASS-204-157.1R	c 44	N79-11470 *
US-PATENT-CLASS-182-152	c 31	N87-25492 *	US-PATENT-CLASS-2-161	c 54	N78-17677 *	US-PATENT-CLASS-204-157.18AG	c 15	N72-25452 *
US-PATENT-CLASS-182-178	c 39	N76-31562 *	US-PATENT-CLASS-2-164	c 54	N84-28484 *	US-PATENT-CLASS-204-157.22	c 25	N88-24732 *
US-PATENT-CLASS-182-191	c 05	N71-11199 *	US-PATENT-CLASS-2-167	c 54	N84-23113 *	US-PATENT-CLASS-204-158R	c 25	N77-32255 *
US-PATENT-CLASS-182-223	c 54	N87-29118 *	US-PATENT-CLASS-2-167	c 54	N84-28484 *	US-PATENT-CLASS-204-159.11	c 27	N80-32516 *
US-PATENT-CLASS-182-5	c 15	N73-25512 *	US-PATENT-CLASS-2-2.1A	c 05	N72-22092 *	US-PATENT-CLASS-204-159.14	c 27	N80-32516 *
US-PATENT-CLASS-182-62.5	c 31	N81-27324 *	US-PATENT-CLASS-2-2.1A	c 05	N73-25125 *	US-PATENT-CLASS-204-159.15	c 27	N80-26446 *
US-PATENT-CLASS-182-63	c 54	N87-29118 *	US-PATENT-CLASS-2-2.1A	c 05	N73-32012 *	US-PATENT-CLASS-204-159.19	c 27	N80-26446 *
US-PATENT-CLASS-182-82	c 54	N87-29118 *	US-PATENT-CLASS-2-2.1A	c 54	N74-32546 *	US-PATENT-CLASS-204-162R	c 25	N77-32255 *
US-PATENT-CLASS-184-1	c 15	N71-23048 *	US-PATENT-CLASS-2-2.1A	c 54	N77-32721 *	US-PATENT-CLASS-204-164	c 26	N78-32229 *
US-PATENT-CLASS-185-38	c 37	N78-16369 *	US-PATENT-CLASS-2-2.1A	c 54	N78-17675 *	US-PATENT-CLASS-204-168	c 24	N71-25555 *
US-PATENT-CLASS-187-1	c 15	N72-25453 *	US-PATENT-CLASS-2-2.1A	c 54	N78-31735 *	US-PATENT-CLASS-204-16	c 24	N77-19171 *
US-PATENT-CLASS-187-20	c 15	N72-25453 *	US-PATENT-CLASS-2-2.1A	c 54	N78-31736 *	US-PATENT-CLASS-204-171	c 27	N80-23452 *
US-PATENT-CLASS-187-7.1	c 07	N71-24742 *	US-PATENT-CLASS-2-2.1A	c 54	N79-24651 *	US-PATENT-CLASS-204-175	c 26	N78-32229 *
US-PATENT-CLASS-187-95	c 15	N72-25453 *	US-PATENT-CLASS-2-2.1A	c 54	N86-28618 *	US-PATENT-CLASS-204-177	c 25	N75-12087 *
US-PATENT-CLASS-188-1B	c 15	N72-20443 *	US-PATENT-CLASS-2-2.1A	c 54	N86-28619 *	US-PATENT-CLASS-204-180.1	c 25	N88-23845 *
US-PATENT-CLASS-188-1B	c 19	N76-22284 *	US-PATENT-CLASS-2-2.1A	c 54	N86-28619 *	US-PATENT-CLASS-204-180G	c 25	N78-14104 *
US-PATENT-CLASS-188-1C	c 15	N72-17450 *	US-PATENT-CLASS-2-2.1A	c 54	N86-29507 *	US-PATENT-CLASS-204-180G	c 25	N79-14169 *
US-PATENT-CLASS-188-1C	c 15	N72-20443 *	US-PATENT-CLASS-2-2.1R	c 54	N86-28618 *	US-PATENT-CLASS-204-180G	c 37	N80-14397 *
US-PATENT-CLASS-188-1C	c 15	N73-30460 *	US-PATENT-CLASS-2-2.1R	c 54	N86-28619 *	US-PATENT-CLASS-204-180P	c 54	N78-14784 *
US-PATENT-CLASS-188-1C	c 11	N73-32152 *	US-PATENT-CLASS-2-2.1	c 05	N71-11194 *	US-PATENT-CLASS-204-180R	c 25	N74-26948 *
US-PATENT-CLASS-188-1C	c 37	N79-10420 *	US-PATENT-CLASS-2-2.1	c 05	N71-11195 *	US-PATENT-CLASS-204-180R	c 34	N74-27144 *
US-PATENT-CLASS-188-103	c 15	N71-27146 *	US-PATENT-CLASS-2-2.1	c 05	N71-12335 *	US-PATENT-CLASS-204-180R	c 51	N80-16715 *
US-PATENT-CLASS-188-129	c 15	N72-17450 *	US-PATENT-CLASS-2-2.1	c 05	N71-12344 *	US-PATENT-CLASS-204-180S	c 25	N79-10163 *
US-PATENT-CLASS-188-134	c 37	N81-15364 *	US-PATENT-CLASS-2-2.1	c 05	N71-23161 *	US-PATENT-CLASS-204-180S	c 25	N79-14169 *
US-PATENT-CLASS-188-151A	c 44	N79-14527 *	US-PATENT-CLASS-2-2.1	c 05	N71-24623 *	US-PATENT-CLASS-204-192.15	c 26	N87-25455 *
US-PATENT-CLASS-188-163	c 37	N74-26976 *	US-PATENT-CLASS-2-2.1	c 05	N71-24730 *	US-PATENT-CLASS-204-192.15	c 76	N88-24543 *
US-PATENT-CLASS-188-171	c 37	N74-26976 *	US-PATENT-CLASS-2-2.1	c 05	N72-20096 *	US-PATENT-CLASS-204-192.23	c 26	N87-25455 *
US-PATENT-CLASS-188-180	c 37	N81-15364 *	US-PATENT-CLASS-2-2.1	c 05	N72-20098 *	US-PATENT-CLASS-204-192.24	c 76	N88-24543 *
US-PATENT-CLASS-188-184	c 37	N81-15364 *	US-PATENT-CLASS-2-2.1	c 05	N72-25119 *	US-PATENT-CLASS-204-192.31	c 26	N88-14179 *
US-PATENT-CLASS-188-1	c 15	N70-34861 *	US-PATENT-CLASS-2-2.1	c 05	N73-26071 *	US-PATENT-CLASS-204-192-C	c 27	N86-19458 *
US-PATENT-CLASS-188-1	c 15	N70-38601 *	US-PATENT-CLASS-2-2.1	c 34	N78-17337 *	US-PATENT-CLASS-204-192-D	c 27	N86-19458 *
US-PATENT-CLASS-188-1	c 15	N70-40354 *	US-PATENT-CLASS-2-2.1	c 54	N78-17678 *	US-PATENT-CLASS-204-192-R	c 27	N86-19458 *
US-PATENT-CLASS-188-1	c 14	N71-17626 *	US-PATENT-CLASS-2-2.1	c 54	N78-18761 *	US-PATENT-CLASS-204-192C	c 76	N79-14906 *
US-PATENT-CLASS-188-1	c 15	N71-22877 *	US-PATENT-CLASS-2-275	c 18	N71-26285 *	US-PATENT-CLASS-204-192C	c 26	N82-29415 *
US-PATENT-CLASS-188-1	c 14	N71-23092 *	US-PATENT-CLASS-2-6	c 05	N71-26333 *	US-PATENT-CLASS-204-192C	c 26	N82-30371 *
US-PATENT-CLASS-188-1	c 15	N71-26243 *	US-PATENT-CLASS-2-6	c 54	N78-17680 *	US-PATENT-CLASS-204-192C	c 24	N84-22695 *
US-PATENT-CLASS-188-1	c 15	N71-27146 *	US-PATENT-CLASS-2-81	c 18	N71-26285 *	US-PATENT-CLASS-204-192C	c 31	N85-20153 *
US-PATENT-CLASS-188-1	c 15	N71-27169 *	US-PATENT-CLASS-2-81	c 05	N73-32012 *	US-PATENT-CLASS-204-192C	c 24	N85-21267 *
US-PATENT-CLASS-188-218-XL	c 37	N88-29181 *	US-PATENT-CLASS-2-82	c 54	N74-32546 *	US-PATENT-CLASS-204-192C	c 76	N85-33826 *
US-PATENT-CLASS-188-251-A	c 37	N88-29181 *	US-PATENT-CLASS-200-114	c 33	N79-33393 *	US-PATENT-CLASS-204-192C	c 27	N86-32569 *
US-PATENT-CLASS-188-266	c 15	N73-25513 *	US-PATENT-CLASS-200-129	c 33	N75-27249 *	US-PATENT-CLASS-204-192C	c 31	N86-32587 *
US-PATENT-CLASS-188-268	c 15	N72-20443 *	US-PATENT-CLASS-200-152	c 09	N71-19610 *	US-PATENT-CLASS-204-192D	c 27	N86-32569 *
US-PATENT-CLASS-188-269	c 44	N79-14527 *	US-PATENT-CLASS-200-153S	c 33	N80-18285 *	US-PATENT-CLASS-204-192D	c 31	N86-32587 *
US-PATENT-CLASS-188-291	c 54	N77-21844 *	US-PATENT-CLASS-200-157	c 08	N86-27288 *	US-PATENT-CLASS-204-192EC	c 27	N82-28440 *
US-PATENT-CLASS-188-371	c 37	N82-18601 *	US-PATENT-CLASS-200-19	c 09	N70-39915 *	US-PATENT-CLASS-204-192EC	c 27	N82-33521 *
US-PATENT-CLASS-188-373	c 37	N88-23982 *	US-PATENT-CLASS-200-304	c 33	N80-18285 *	US-PATENT-CLASS-204-192EC	c 33	N84-22884 *
US-PATENT-CLASS-188-65.1	c 15	N73-25512 *	US-PATENT-CLASS-200-39	c 03	N70-38713 *	US-PATENT-CLASS-204-192E	c 37	N81-19455 *
US-PATENT-CLASS-188-65.5	c 15	N71-27067 *	US-PATENT-CLASS-200-46	c 74	N79-12890 *	US-PATENT-CLASS-204-192E	c 27	N82-28440 *
US-PATENT-CLASS-188-87	c 12	N71-16894 *	US-PATENT-CLASS-200-61.05	c 25	N86-27431 *	US-PATENT-CLASS-204-192E	c 27	N82-33521 *
US-PATENT-CLASS-188-88	c 15	N71-26611 *	US-PATENT-CLASS-200-61.42	c 09	N71-12518 *	US-PATENT-CLASS-204-192E	c 24	N83-10117 *
US-PATENT-CLASS-189-36	c 15	N70-36947 *	US-PATENT-CLASS-200-61.45	c 14	N70-41812 *	US-PATENT-CLASS-201-192N	c 52	N84-23095 *
US-PATENT-CLASS-191-205	c 37	N76-18456 *	US-PATENT-CLASS-200-61	c 74	N79-12890 *	US-PATENT-CLASS-201-192N	c 24	N85-21267 *
US-PATENT-CLASS-191-12.2-R	c 33	N86-20669 *	US-PATENT-CLASS-200-64	c 15	N72-17455 *	US-PATENT-CLASS-204-192N	c 26	N85-29005 *
US-PATENT-CLASS-192-43.1	c 15	N71-17805 *	US-PATENT-CLASS-200-6	c 10	N71-15099 *	US-PATENT-CLASS-204-192P	c 76	N85-33826 *
US-PATENT-CLASS-192-46	c 37	N87-17037 *	US-PATENT-CLASS-200-6	c 09	N71-16089 *	US-PATENT-CLASS-204-192R	c 24	N84-22695 *
US-PATENT-CLASS-192-67R	c 37	N87-17037 *	US-PATENT-CLASS-200-81.9M	c 09	N72-20199 *	US-PATENT-CLASS-204-192R	c 31	N85-20153 *
US-PATENT-CLASS-194-902	c 37	N89-13785 *	US-PATENT-CLASS-200-81R	c 09	N72-22204 *	US-PATENT-CLASS-204-192R	c 24	N85-21267 *
US-PATENT-CLASS-195-1.8	c 51	N77-25769 *	US-PATENT-CLASS-200-82C	c 09	N72-22204 *	US-PATENT-CLASS-204-192SP	c 24	N84-22695 *
US-PATENT-CLASS-195-1.8	c 51	N79-10694 *	US-PATENT-CLASS-200-82	c 10	N71-23663 *	US-PATENT-CLASS-204-192SP	c 31	N85-20153 *
US-PATENT-CLASS-195-1.8	c 52	N79-14749 *	US-PATENT-CLASS-200-83N	c 35	N75-15931 *	US-PATENT-CLASS-204-192	c 15	N73-12487 *
US-PATENT-CLASS-195-103.5K	c 51	N77-22794 *	US-PATENT-CLASS-200-83	c 33	N79-33392 *	US-PATENT-CLASS-204-192	c 17	N73-24569 *
US-PATENT-CLASS-195-103.5K	c 52	N79-14750 *	US-PATENT-CLASS-201-10	c 27	N81-17261 *	US-PATENT-CLASS-204-192	c 27	N74-13270 *
US-PATENT-CLASS-195-103.5L	c 52	N79-14750 *	US-PATENT-CLASS-201-17	c 44	N78-31527 *	US-PATENT-CLASS-204-192	c 20	N74-31269 *
US-PATENT-CLASS-195-103.5R	c 06	N81-32245 *	US-PATENT-CLASS-201-17	c 25	N81-33246 *	US-PATENT-CLASS-204-192	c 37	N75-19684 *
US-PATENT-CLASS-195-103.5R	c 25	N75-12086 *	US-PATENT-CLASS-201-17	c 25	N82-29371 *	US-PATENT-CLASS-204-192	c 44	N77-14580 *
US-PATENT-CLASS-195-103.5R	c 35	N75-27330 *	US-PATENT-CLASS-201-17	c 25	N83-31743 *	US-PATENT-CLASS-204-195B	c 25	N79-24073 *
US-PATENT-CLASS-195-103.5R	c 35	N75-33368 *	US-PATENT-CLASS-201-17	c 25	N85-35253 *	US-PATENT-CLASS-204-195B	c 51	N80-27067 *
US-PATENT-CLASS-195-103.5R	c 51	N76-29891 *	US-PATENT-CLASS-201-25	c 27	N81-17261 *	US-PATENT-CLASS-204-195B	c 51	N81-28698 *
US-PATENT-CLASS-195-103.5R	c 51	N77-22794 *	US-PATENT-CLASS-201-8	c 27	N81-17261 *	US-PATENT-CLASS-204-195B	c 35	N82-28604 *
US-PATENT-CLASS-195-103.5R	c 25	N79-22235 *	US-PATENT-CLASS-202-118	c 31	N81-15154 *	US-PATENT-CLASS-204-195R	c 33	N76-19339 *
US-PATENT-CLASS-195-120	c 51	N75-13502 *	US-PATENT-CLASS-202-182	c 05	N71-11207 *	US-PATENT-CLASS-204-195S	c 25	N82-12166 *
US-PATENT-CLASS-195-120	c 35	N75-27330 *	US-PATENT-CLASS-202-234	c 15	N71-23086 *	US-PATENT-CLASS-204-195W	c 35	N78-25391 *
US-PATENT-CLASS-195-127	c 15	N72-21465 *	US-PATENT-CLASS-203-12	c 25	N82-28368 *	US-PATENT-CLASS-204-195	c 14	N71-17575 *
US-PATENT-CLASS-195-127	c 11	N72-25284 *	US-PATENT-CLASS-203-90	c 25	N88-23846 *	US-PATENT-CLASS-204-2.1	c 44	N81-29524 *
US-PATENT-CLASS-195-127	c 14	N72-25413 *	US-PATENT-CLASS-203-91	c 25	N88-23846 *	US-PATENT-CLASS-204-20	c 18	N71-16210 *
US-PATENT-CLASS-195-127	c 15	N73-20514 *	US-PATENT-CLASS-203-98	c 25	N88-23846 *	US-PATENT-CLASS-204-222	c 31	N74-23065 *
US-PATENT-CLASS-195-127	c 05	N73-32011 *	US-PATENT-CLASS-204-DIG.11	c 25	N77-32255 *	US-PATENT-CLASS-204-224	c 37	N80-14395 *
US-PATENT-CLASS-195-127	c 35	N75-12272 *	US-PATENT-CLASS-204-DIG.3	c 25	N84-12262 *	US-PATENT-CLASS-204-242	c 33	N75-27252 *
US-PATENT-CLASS-195-127	c 51	N75-13502 *	US-PATENT-CLASS-204-DIG.3	c 44	N84-23019 *	US-PATENT-CLASS-204-242	c 25	N84-12262 *
US-PATENT-CLASS-195-127	c 35	N75-27330 *	US-PATENT-CLASS-204-1T	c 25	N79-22235 *	US-PATENT-CLASS-204-252	c 28	N81-24280 *
US-PATENT-CLASS-195-127	c 25	N79-22235 *	US-PATENT-CLASS-204-1T	c 51	N81-28698 *	US-PATENT-CLASS-204-263	c 14	N71-28933 *
US-PATENT-CLASS-195-127	c 25	N79-24073 *	US-PATENT-CLASS-204-1T	c 25	N82-12166 *	US-PATENT-CLASS-204-263	c 25	N82-12166 *
US-PATENT-CLASS-195-141	c 35	N75-27330 *	US-PATENT-CLASS-204-1T	c 76	N84-35112 *	US-PATENT-CLASS-204-264	c 25	N82-12166 *
US-PATENT-CLASS-195-28N	c 06	N72-25149 *	US-PATENT-CLASS-204-1T	c 35	N85-29212 *	US-PATENT-CLASS-204-266	c 28	N81-24280 *
US-PATENT-CLASS-195-66R	c 06	N73-27086 *	US-PATENT-CLASS-204-1T	c 76	N85-30923 *	US-PATENT-CLASS-204-266	c 25	N82-12166 *
US-PATENT-CLASS-195-68	c 04	N69-27488 *	US-PATENT-CLASS-204-129.55	c 31	N83-19947 *	US-PATENT-CLASS-204-267	c 33	N75-27252 *
US-PATENT-CLASS-195-99	c 06	N71-17705 *	US-PATENT-CLASS-204-129.75	c 31	N83-19947 *	US-PATENT-CLASS-204-275	c 25	N82-12166 *
US-PATENT-CLASS-197-188	c 37	N77-19457 *	US-PATENT-CLASS-204-129	c 28	N81-24280 *	US-PATENT-CLASS-204-276	c 25	N82-12166 *
US-PATENT-CLASS-197-190	c 37	N77-19457 *	US-PATENT-CLASS-204-129	c 25	N84-12262 *	US-PATENT-CLASS-204-278	c 25	N82-12166 *
US-PATENT-CLASS-198-847	c 37	N80-32717 *	US-PATENT-CLASS-204-129	c 44	N84-23019 *	US-PATENT-CLASS-204-278	c 25	N84-12262 *
US-PATENT-CLASS-198-848	c 37	N80-32717 *	US-PATENT-CLASS-204-130	c 15	N72-21466 *	US-PATENT-CLASS-204-278	c 44	N84-23019 *



US-PATENT-CLASS-204-279	c 33	N75-27252 *	US-PATENT-CLASS-210-186	c 37	N80-10494 *	US-PATENT-CLASS-219-109	c 15	N72-23497 *
US-PATENT-CLASS-204-280R	c 25	N83-13187 *	US-PATENT-CLASS-210-188	c 12	N72-25292 *	US-PATENT-CLASS-219-117	c 15	N73-32358 *
US-PATENT-CLASS-204-280	c 44	N84-23019 *	US-PATENT-CLASS-210-192	c 54	N78-14784 *	US-PATENT-CLASS-219-118	c 37	N76-27568 *
US-PATENT-CLASS-204-286	c 33	N75-27252 *	US-PATENT-CLASS-210-212	c 03	N72-20033 *	US-PATENT-CLASS-219-119	c 37	N77-11397 *
US-PATENT-CLASS-204-290F	c 28	N81-24280 *	US-PATENT-CLASS-210-222	c 35	N78-12390 *	US-PATENT-CLASS-219-119	c 15	N73-14468 *
US-PATENT-CLASS-204-290F	c 44	N82-29710 *	US-PATENT-CLASS-210-222	c 52	N80-14687 *	US-PATENT-CLASS-219-121.54	c 37	N88-30131 *
US-PATENT-CLASS-204-290R	c 33	N75-27252 *	US-PATENT-CLASS-210-23F	c 51	N79-10693 *	US-PATENT-CLASS-219-121.56	c 37	N88-30131 *
US-PATENT-CLASS-204-290R	c 28	N81-24280 *	US-PATENT-CLASS-210-23H	c 27	N80-23452 *	US-PATENT-CLASS-219-121.57	c 37	N88-30131 *
US-PATENT-CLASS-204-290R	c 44	N82-29710 *	US-PATENT-CLASS-210-234	c 34	N75-33342 *	US-PATENT-CLASS-219-121LE	c 26	N86-32551 *
US-PATENT-CLASS-204-290R	c 25	N84-12262 *	US-PATENT-CLASS-210-24R	c 27	N81-14076 *	US-PATENT-CLASS-219-121LN	c 44	N82-26777 *
US-PATENT-CLASS-204-290	c 44	N84-28205 *	US-PATENT-CLASS-210-24	c 27	N77-30236 *	US-PATENT-CLASS-219-121LY	c 26	N86-32551 *
US-PATENT-CLASS-204-291	c 28	N81-24280 *	US-PATENT-CLASS-210-24	c 25	N81-19244 *	US-PATENT-CLASS-219-121P	c 15	N72-32487 *
US-PATENT-CLASS-204-292	c 25	N78-10225 *	US-PATENT-CLASS-210-259	c 34	N75-33342 *	US-PATENT-CLASS-219-121	c 15	N69-21471 *
US-PATENT-CLASS-204-298	c 15	N70-34967 *	US-PATENT-CLASS-210-282	c 37	N87-17035 *	US-PATENT-CLASS-219-121	c 33	N70-34540 *
US-PATENT-CLASS-204-298	c 09	N71-26701 *	US-PATENT-CLASS-210-28	c 85	N79-17747 *	US-PATENT-CLASS-219-121	c 15	N71-19486 *
US-PATENT-CLASS-204-298	c 15	N72-32487 *	US-PATENT-CLASS-210-304	c 34	N75-33342 *	US-PATENT-CLASS-219-121	c 16	N71-20400 *
US-PATENT-CLASS-204-298	c 37	N75-19684 *	US-PATENT-CLASS-210-314	c 28	N70-41447 *	US-PATENT-CLASS-219-121	c 15	N71-27135 *
US-PATENT-CLASS-204-298	c 27	N86-32569 *	US-PATENT-CLASS-210-321.1	c 25	N82-21269 *	US-PATENT-CLASS-219-124.02	c 37	N88-30131 *
US-PATENT-CLASS-204-298	c 31	N86-32587 *	US-PATENT-CLASS-210-321B	c 52	N80-14687 *	US-PATENT-CLASS-219-124.2	c 37	N79-10421 *
US-PATENT-CLASS-204-298	c 31	N87-21160 *	US-PATENT-CLASS-210-333	c 34	N75-33342 *	US-PATENT-CLASS-219-124.32	c 37	N79-10421 *
US-PATENT-CLASS-204-299-R	c 25	N88-23845 *	US-PATENT-CLASS-210-340	c 37	N80-10494 *	US-PATENT-CLASS-219-124.34	c 37	N86-21850 *
US-PATENT-CLASS-204-299R	c 25	N78-14104 *	US-PATENT-CLASS-210-340	c 27	N77-31308 *	US-PATENT-CLASS-219-124.34	c 74	N87-17493 *
US-PATENT-CLASS-204-299R	c 25	N79-14169 *	US-PATENT-CLASS-210-40	c 85	N79-17747 *	US-PATENT-CLASS-219-124.34	c 74	N87-25843 *
US-PATENT-CLASS-204-299R	c 37	N80-14397 *	US-PATENT-CLASS-210-40	c 45	N82-11634 *	US-PATENT-CLASS-219-124.34	c 37	N88-14362 *
US-PATENT-CLASS-204-299R	c 51	N80-16715 *	US-PATENT-CLASS-210-411	c 34	N75-33342 *	US-PATENT-CLASS-219-125.1	c 37	N79-10421 *
US-PATENT-CLASS-204-299R	c 25	N83-10126 *	US-PATENT-CLASS-210-425	c 34	N75-33342 *	US-PATENT-CLASS-219-125	c 15	N71-23815 *
US-PATENT-CLASS-204-299R	c 25	N83-13187 *	US-PATENT-CLASS-210-429	c 37	N76-14463 *	US-PATENT-CLASS-219-125	c 37	N75-27376 *
US-PATENT-CLASS-204-299	c 34	N74-27744 *	US-PATENT-CLASS-210-433M	c 51	N79-10693 *	US-PATENT-CLASS-219-130.01	c 74	N87-17493 *
US-PATENT-CLASS-204-299	c 25	N79-10163 *	US-PATENT-CLASS-210-445	c 15	N72-11389 *	US-PATENT-CLASS-219-130.01	c 74	N87-25843 *
US-PATENT-CLASS-204-301	c 54	N78-14784 *	US-PATENT-CLASS-210-45	c 85	N79-17747 *	US-PATENT-CLASS-219-130.01	c 37	N88-14362 *
US-PATENT-CLASS-204-305	c 03	N71-24718 *	US-PATENT-CLASS-210-500.25	c 31	N88-29052 *	US-PATENT-CLASS-219-130.4	c 37	N88-30131 *
US-PATENT-CLASS-204-30	c 09	N71-28691 *	US-PATENT-CLASS-210-500.35	c 31	N88-29052 *	US-PATENT-CLASS-219-130	c 15	N71-23798 *
US-PATENT-CLASS-204-32A	c 33	N77-26385 *	US-PATENT-CLASS-210-500M	c 27	N80-23452 *	US-PATENT-CLASS-219-131	c 15	N71-15871 *
US-PATENT-CLASS-204-32R	c 44	N76-14595 *	US-PATENT-CLASS-210-500M	c 25	N81-17187 *	US-PATENT-CLASS-219-136	c 37	N88-14362 *
US-PATENT-CLASS-204-324	c 33	N73-16918 *	US-PATENT-CLASS-210-500M	c 25	N75-12087 *	US-PATENT-CLASS-219-137.42	c 37	N88-23980 *
US-PATENT-CLASS-204-325	c 33	N73-16918 *	US-PATENT-CLASS-210-500	c 45	N79-12584 *	US-PATENT-CLASS-219-137	c 15	N70-34812 *
US-PATENT-CLASS-204-328	c 33	N73-16918 *	US-PATENT-CLASS-210-512	c 34	N75-33342 *	US-PATENT-CLASS-219-137	c 37	N75-19683 *
US-PATENT-CLASS-204-32	c 44	N79-11469 *	US-PATENT-CLASS-210-512	c 85	N79-17747 *	US-PATENT-CLASS-219-158	c 15	N72-22491 *
US-PATENT-CLASS-204-33	c 17	N71-25903 *	US-PATENT-CLASS-210-54	c 85	N80-14579 *	US-PATENT-CLASS-219-160	c 37	N80-23655 *
US-PATENT-CLASS-204-33	c 44	N76-14595 *	US-PATENT-CLASS-210-57	c 45	N84-12654 *	US-PATENT-CLASS-219-161	c 37	N80-23655 *
US-PATENT-CLASS-204-33	c 44	N79-11469 *	US-PATENT-CLASS-210-602	c 45	N84-12654 *	US-PATENT-CLASS-219-19	c 33	N70-34812 *
US-PATENT-CLASS-204-33	c 44	N83-34449 *	US-PATENT-CLASS-210-605	c 45	N79-12584 *	US-PATENT-CLASS-219-201	c 52	N80-16725 *
US-PATENT-CLASS-204-35N	c 27	N83-29388 *	US-PATENT-CLASS-210-60	c 45	N79-12584 *	US-PATENT-CLASS-219-201	c 37	N85-29286 *
US-PATENT-CLASS-204-35N	c 44	N83-34449 *	US-PATENT-CLASS-210-617	c 45	N84-12654 *	US-PATENT-CLASS-219-203	c 11	N73-12265 *
US-PATENT-CLASS-204-37.6	c 76	N84-35112 *	US-PATENT-CLASS-210-63R	c 25	N78-10225 *	US-PATENT-CLASS-219-203	c 27	N84-33589 *
US-PATENT-CLASS-204-37R	c 44	N79-11469 *	US-PATENT-CLASS-210-63R	c 45	N79-12584 *	US-PATENT-CLASS-219-209	c 35	N81-26431 *
US-PATENT-CLASS-204-37R	c 27	N83-29388 *	US-PATENT-CLASS-210-63Z	c 45	N80-14579 *	US-PATENT-CLASS-219-210	c 35	N81-26431 *
US-PATENT-CLASS-204-37R	c 33	N71-29151 *	US-PATENT-CLASS-210-639	c 31	N88-29052 *	US-PATENT-CLASS-219-216	c 35	N74-15831 *
US-PATENT-CLASS-204-38A	c 44	N76-14595 *	US-PATENT-CLASS-210-653	c 31	N88-29052 *	US-PATENT-CLASS-219-219	c 27	N84-33589 *
US-PATENT-CLASS-204-38B	c 44	N79-11469 *	US-PATENT-CLASS-210-66	c 85	N79-17747 *	US-PATENT-CLASS-219-221	c 15	N72-11392 *
US-PATENT-CLASS-204-38B	c 27	N82-33521 *	US-PATENT-CLASS-210-67	c 85	N79-17747 *	US-PATENT-CLASS-219-221	c 37	N85-29286 *
US-PATENT-CLASS-204-38	c 17	N71-24830 *	US-PATENT-CLASS-210-70	c 85	N79-17747 *	US-PATENT-CLASS-219-229	c 15	N71-27214 *
US-PATENT-CLASS-204-40	c 44	N76-14595 *	US-PATENT-CLASS-210-71	c 25	N78-10225 *	US-PATENT-CLASS-219-234	c 15	N72-22491 *
US-PATENT-CLASS-204-40	c 24	N77-19171 *	US-PATENT-CLASS-210-73R	c 85	N79-17747 *	US-PATENT-CLASS-219-234	c 15	N72-23497 *
US-PATENT-CLASS-204-42	c 44	N76-14595 *	US-PATENT-CLASS-210-748	c 71	N83-35781 *	US-PATENT-CLASS-219-243	c 15	N72-11392 *
US-PATENT-CLASS-204-430	c 35	N85-29212 *	US-PATENT-CLASS-210-748	c 35	N84-17555 *	US-PATENT-CLASS-219-273	c 15	N72-32487 *
US-PATENT-CLASS-204-49	c 15	N72-25452 *	US-PATENT-CLASS-210-82	c 34	N75-33342 *	US-PATENT-CLASS-219-275	c 15	N71-20395 *
US-PATENT-CLASS-204-49	c 44	N76-14595 *	US-PATENT-CLASS-210-96M	c 54	N78-14784 *	US-PATENT-CLASS-219-275	c 20	N87-16675 *
US-PATENT-CLASS-204-56R	c 44	N83-10494 *	US-PATENT-CLASS-210-96M	c 51	N79-10693 *	US-PATENT-CLASS-219-285	c 37	N85-29286 *
US-PATENT-CLASS-204-56R	c 27	N83-29388 *	US-PATENT-CLASS-211-126	c 35	N86-20751 *	US-PATENT-CLASS-219-299	c 51	N79-10694 *
US-PATENT-CLASS-204-56R	c 76	N84-35112 *	US-PATENT-CLASS-211-74	c 35	N86-20751 *	US-PATENT-CLASS-219-300	c 37	N77-13418 *
US-PATENT-CLASS-204-59	c 15	N72-21466 *	US-PATENT-CLASS-212-11	c 32	N71-17609 *	US-PATENT-CLASS-219-302	c 51	N79-10694 *
US-PATENT-CLASS-204-9	c 20	N74-32919 *	US-PATENT-CLASS-212-134	c 15	N72-11388 *	US-PATENT-CLASS-219-304	c 37	N77-13418 *
US-PATENT-CLASS-204-9	c 24	N77-19171 *	US-PATENT-CLASS-212-225	c 18	N89-12621 *	US-PATENT-CLASS-219-343	c 27	N83-36220 *
US-PATENT-CLASS-204-298	c 27	N86-19458 *	US-PATENT-CLASS-212-230	c 37	N86-20789 *	US-PATENT-CLASS-219-347	c 15	N69-27871 *
US-PATENT-CLASS-2041-195B	c 25	N79-22235 *	US-PATENT-CLASS-212-257	c 18	N89-12621 *	US-PATENT-CLASS-219-347	c 33	N70-34545 *
US-PATENT-CLASS-205-343	c 35	N75-30502 *	US-PATENT-CLASS-212-267	c 31	N81-27324 *	US-PATENT-CLASS-219-348	c 15	N73-27405 *
US-PATENT-CLASS-206-439	c 52	N79-14749 *	US-PATENT-CLASS-213-81	c 37	N77-23483 *	US-PATENT-CLASS-219-34	c 09	N70-33312 *
US-PATENT-CLASS-206-447	c 27	N84-14323 *	US-PATENT-CLASS-214-1CM	c 37	N76-15460 *	US-PATENT-CLASS-219-354	c 27	N83-36220 *
US-PATENT-CLASS-206-582	c 27	N84-14323 *	US-PATENT-CLASS-214-1BC	c 54	N77-32721 *	US-PATENT-CLASS-219-364	c 33	N71-16278 *
US-PATENT-CLASS-208-10	c 25	N79-11152 *	US-PATENT-CLASS-214-1B	c 54	N75-27758 *	US-PATENT-CLASS-219-378	c 33	N71-25533 *
US-PATENT-CLASS-208-10	c 23	N84-16255 *	US-PATENT-CLASS-214-1CM	c 15	N72-28495 *	US-PATENT-CLASS-219-383	c 09	N88-28939 *
US-PATENT-CLASS-208-10	c 25	N84-22709 *	US-PATENT-CLASS-214-1CM	c 54	N75-12616 *	US-PATENT-CLASS-219-388	c 35	N74-15831 *
US-PATENT-CLASS-208-11	c 25	N86-25428 *	US-PATENT-CLASS-214-1CM	c 18	N75-27041 *	US-PATENT-CLASS-219-390	c 27	N83-36220 *
US-PATENT-CLASS-208-241	c 25	N82-23282 *	US-PATENT-CLASS-214-1CM	c 54	N75-27758 *	US-PATENT-CLASS-219-390	c 35	N86-20750 *
US-PATENT-CLASS-208-8LE	c 23	N84-16255 *	US-PATENT-CLASS-214-1CM	c 37	N77-23483 *	US-PATENT-CLASS-219-395	c 35	N86-20750 *
US-PATENT-CLASS-208-8LE	c 25	N84-22709 *	US-PATENT-CLASS-214-1CM	c 54	N77-32721 *	US-PATENT-CLASS-219-396	c 35	N86-20750 *
US-PATENT-CLASS-208-8	c 25	N79-11152 *	US-PATENT-CLASS-214-1CM	c 54	N78-17676 *	US-PATENT-CLASS-219-410	c 12	N79-26075 *
US-PATENT-CLASS-209-10	c 15	N71-20440 *	US-PATENT-CLASS-214-1R	c 37	N76-15457 *	US-PATENT-CLASS-219-411	c 17	N69-25147 *
US-PATENT-CLASS-209-127R	c 35	N76-22509 *	US-PATENT-CLASS-214-16.1CB	c 37	N77-22480 *	US-PATENT-CLASS-219-411	c 27	N83-36220 *
US-PATENT-CLASS-209-250	c 37	N76-18456 *	US-PATENT-CLASS-214-1	c 32	N70-41367 *	US-PATENT-CLASS-219-413	c 14	N71-28958 *
US-PATENT-CLASS-209-300	c 37	N76-18456 *	US-PATENT-CLASS-214-90R	c 03	N72-25021 *	US-PATENT-CLASS-219-477	c 33	N74-14935 *
US-PATENT-CLASS-209-305	c 37	N76-18456 *	US-PATENT-CLASS-215-247	c 33	N76-19339 *	US-PATENT-CLASS-219-497	c 77	N75-20140 *
US-PATENT-CLASS-209-349	c 15	N72-22483 *	US-PATENT-CLASS-219-10.41	c 33	N82-26571 *	US-PATENT-CLASS-219-499	c 14	N73-26430 *
US-PATENT-CLASS-209-422	c 71	N85-30765 *	US-PATENT-CLASS-219-10.43	c 31	N85-29083 *	US-PATENT-CLASS-219-501	c 77	N75-20140 *
US-PATENT-CLASS-209-638	c 71	N85-30765 *	US-PATENT-CLASS-219-10.49R	c 33	N81-19389 *	US-PATENT-CLASS-219-505	c 14	N71-27058 *
US-PATENT-CLASS-21-207	c 17	N71-16393 *	US-PATENT-CLASS-219-10.49	c 11	N71-15925 *	US-PATENT-CLASS-219-505	c 77	N75-20140 *
US-PATENT-CLASS-210-DIG.23	c 52	N79-14749 *	US-PATENT-CLASS-219-10.49	c 31	N95-29083 *	US-PATENT-CLASS-219-50	c 14	N73-20430 *
US-PATENT-CLASS-210-DIG.27	c 27	N77-31308 *	US-PATENT-CLASS-219-10.53	c 33	N82-26571 *	US-PATENT-CLASS-219-510	c 35	N81-26431 *
US-PATENT-CLASS-210-103	c 05	N72-27102 *	US-PATENT-CLASS-219-10.53	c 31	N85-29083 *	US-PATENT-CLASS-219-522	c 11	N73-12265 *
US-PATENT-CLASS-210-104	c 05	N72-27102 *	US-PATENT-CLASS-219-10.67	c 33	N81-19389 *	US-PATENT-CLASS-219-522	c 52	N80-16725 *
US-PATENT-CLASS-210-108	c 34	N79-24285 *	US-PATENT-CLASS-219-10.77	c 31	N85-29083 *	US-PATENT-CLASS-219-522	c 27	N84-33589 *
US-PATENT-CLASS-210-110	c 05	N72-27102 *	US-PATENT-CLASS-219-101	c 15	N73-14468 *	US-PATENT-CLASS-219-530	c 33	N71-25533 *
US-PATENT-CLASS-210-137	c 05	N72-27102 *	US-PATENT-CLASS-219-101	c 37	N74-11300 *	US-PATENT-CLASS-219-539	c 33	N74-14935 *
US-PATENT-CLASS-210-142	c 34	N79-24285 *	US-PATENT-CLASS-219-107	c 15	N73-28515 *	US-PATENT-CLASS-219-541	c 27	N84-33589 *
US-PATENT-CLASS-210-151	c 45	N84-12654 *	US-PATENT-CLASS-219-107	c 37	N74-11300 *	US-PATENT-CLASS-219-543	c 27	N84-33589 *



US-PATENT-CLASS-219-545	c 33	N82-26571 *	US-PATENT-CLASS-228-181	c 24	N84-11214 *	US-PATENT-CLASS-23-259	c 37	N74-18123 *
US-PATENT-CLASS-219-62	c 15	N73-28515 *	US-PATENT-CLASS-228-190	c 24	N75-28135 *	US-PATENT-CLASS-23-259	c 51	N77-27677 *
US-PATENT-CLASS-219-72	c 15	N71-14932 *	US-PATENT-CLASS-228-190	c 26	N77-28265 *	US-PATENT-CLASS-23-277C	c 25	N74-33378 *
US-PATENT-CLASS-219-74	c 74	N87-25843 *	US-PATENT-CLASS-228-190	c 24	N81-17170 *	US-PATENT-CLASS-23-277R	c 44	N77-22607 *
US-PATENT-CLASS-219-75	c 37	N88-23980 *	US-PATENT-CLASS-228-190	c 24	N81-26179 *	US-PATENT-CLASS-23-277	c 26	N70-40015 *
US-PATENT-CLASS-219-76.14	c 24	N85-30027 *	US-PATENT-CLASS-228-193	c 24	N75-28135 *	US-PATENT-CLASS-23-281	c 28	N72-18766 *
US-PATENT-CLASS-219-78	c 37	N74-11300 *	US-PATENT-CLASS-228-193	c 37	N76-18455 *	US-PATENT-CLASS-23-281	c 25	N74-12813 *
US-PATENT-CLASS-219-85CA	c 35	N80-20560 *	US-PATENT-CLASS-228-193	c 35	N83-35338 *	US-PATENT-CLASS-23-281	c 44	N76-18642 *
US-PATENT-CLASS-219-85CM	c 35	N80-20560 *	US-PATENT-CLASS-228-194	c 26	N77-28265 *	US-PATENT-CLASS-23-281	c 44	N76-29700 *
US-PATENT-CLASS-219-85R	c 35	N80-20560 *	US-PATENT-CLASS-228-194	c 37	N75-25185 *	US-PATENT-CLASS-23-281	c 44	N77-10636 *
US-PATENT-CLASS-219-85	c 15	N72-22491 *	US-PATENT-CLASS-228-2.5	c 37	N79-13364 *	US-PATENT-CLASS-23-281	c 44	N77-22607 *
US-PATENT-CLASS-219-85	c 15	N72-23497 *	US-PATENT-CLASS-228-2.5	c 37	N88-14359 *	US-PATENT-CLASS-23-284	c 35	N74-15127 *
US-PATENT-CLASS-219-91	c 15	N71-18613 *	US-PATENT-CLASS-228-205	c 37	N81-19455 *	US-PATENT-CLASS-23-288F	c 25	N74-12813 *
US-PATENT-CLASS-219-91	c 15	N73-32358 *	US-PATENT-CLASS-228-206	c 37	N76-18455 *	US-PATENT-CLASS-23-288J	c 25	N74-12813 *
US-PATENT-CLASS-219-92	c 37	N76-27568 *	US-PATENT-CLASS-228-208	c 37	N87-21334 *	US-PATENT-CLASS-23-288R	c 28	N80-10374 *
US-PATENT-CLASS-219-92	c 37	N77-11397 *	US-PATENT-CLASS-228-209	c 37	N87-21334 *	US-PATENT-CLASS-23-288	c 28	N72-18766 *
US-PATENT-CLASS-22-200	c 15	N71-15966 *	US-PATENT-CLASS-228-212	c 37	N80-23655 *	US-PATENT-CLASS-23-292	c 51	N77-27677 *
US-PATENT-CLASS-22-203	c 17	N70-38198 *	US-PATENT-CLASS-228-212	c 24	N84-11214 *	US-PATENT-CLASS-23-293R	c 28	N81-15119 *
US-PATENT-CLASS-220-14	c 15	N69-39935 *	US-PATENT-CLASS-228-214	c 37	N76-18455 *	US-PATENT-CLASS-23-295R	c 76	N85-29800 *
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US-PATENT-CLASS-235-92MT	c 08	N72-31226 *	US-PATENT-CLASS-24-205.17	c 15	N71-25975 *	US-PATENT-CLASS-244-12.4	c 05	N88-28914 *
US-PATENT-CLASS-235-92MT	c 32	N73-26910 *	US-PATENT-CLASS-24-211N	c 15	N72-11385 *	US-PATENT-CLASS-244-12.5	c 08	N81-19130 *
US-PATENT-CLASS-235-92PC	c 35	N82-11431 *	US-PATENT-CLASS-24-211	c 15	N71-17653 *	US-PATENT-CLASS-244-12.5	c 05	N88-23765 *
US-PATENT-CLASS-235-92PE	c 37	N74-21056 *	US-PATENT-CLASS-24-214	c 31	N83-31895 *	US-PATENT-CLASS-244-121	c 27	N79-12221 *
US-PATENT-CLASS-235-92R	c 08	N72-20176 *	US-PATENT-CLASS-24-263	c 15	N71-21076 *	US-PATENT-CLASS-244-121	c 24	N79-25142 *
US-PATENT-CLASS-235-92R	c 08	N73-20217 *	US-PATENT-CLASS-24-263	c 15	N71-26162 *	US-PATENT-CLASS-244-121	c 15	N79-26100 *
US-PATENT-CLASS-235-92R	c 08	N73-25206 *	US-PATENT-CLASS-24-304	c 27	N85-20125 *	US-PATENT-CLASS-244-121	c 27	N82-24339 *
US-PATENT-CLASS-235-92R	c 33	N75-19519 *	US-PATENT-CLASS-24-447	c 27	N85-20125 *	US-PATENT-CLASS-244-121	c 27	N82-29456 *
US-PATENT-CLASS-235-92R	c 38	N77-17495 *	US-PATENT-CLASS-24-450	c 27	N85-20125 *	US-PATENT-CLASS-244-121	c 37	N87-17036 *
US-PATENT-CLASS-235-92SB	c 37	N74-21056 *	US-PATENT-CLASS-24-560	c 52	N84-28388 *	US-PATENT-CLASS-244-122	c 05	N71-20718 *
US-PATENT-CLASS-235-92SH	c 33	N76-14373 *	US-PATENT-CLASS-24-693	c 27	N85-20125 *	US-PATENT-CLASS-244-123	c 24	N77-28225 *
US-PATENT-CLASS-235-92T	c 03	N72-25020 *	US-PATENT-CLASS-240-1.2	c 11	N70-33329 *	US-PATENT-CLASS-244-123	c 24	N82-24296 *
US-PATENT-CLASS-235-92T	c 08	N73-20217 *	US-PATENT-CLASS-240-11.2	c 09	N71-26787 *	US-PATENT-CLASS-244-123	c 24	N82-26384 *
US-PATENT-CLASS-235-92T	c 33	N75-19519 *	US-PATENT-CLASS-240-11.4	c 09	N71-26787 *	US-PATENT-CLASS-244-123	c 24	N84-11214 *
US-PATENT-CLASS-235-92VA	c 33	N75-19519 *	US-PATENT-CLASS-240-41.35R	c 74	N77-21941 *	US-PATENT-CLASS-244-127	c 34	N74-23039 *
US-PATENT-CLASS-235-92	c 08	N71-22897 *	US-PATENT-CLASS-240-41B	c 36	N75-27364 *	US-PATENT-CLASS-244-12	c 02	N70-33332 *
US-PATENT-CLASS-235-92	c 08	N71-24891 *	US-PATENT-CLASS-240-41R	c 74	N77-21941 *	US-PATENT-CLASS-244-130	c 02	N77-10001 *
US-PATENT-CLASS-235-92	c 10	N71-27137 *	US-PATENT-CLASS-240-46.13	c 74	N77-21941 *	US-PATENT-CLASS-244-130	c 02	N81-14968 *
US-PATENT-CLASS-235-92	c 14	N71-27215 *	US-PATENT-CLASS-240-47	c 34	N74-23066 *	US-PATENT-CLASS-244-130	c 37	N81-24443 *
US-PATENT-CLASS-236-1F	c 35	N81-26431 *	US-PATENT-CLASS-240-51.11	c 09	N71-26787 *	US-PATENT-CLASS-244-130	c 02	N87-16793 *
US-PATENT-CLASS-236-13	c 31	N80-32583 *	US-PATENT-CLASS-241-95	c 37	N84-16561 *	US-PATENT-CLASS-244-130	c 07	N87-16828 *
US-PATENT-CLASS-236-15E	c 25	N88-29002 *	US-PATENT-CLASS-242-107	c 33	N86-20669 *	US-PATENT-CLASS-244-130	c 02	N88-14071 *
US-PATENT-CLASS-236-1	c 33	N71-16357 *	US-PATENT-CLASS-242-128	c 15	N82-24272 *	US-PATENT-CLASS-244-130	c 05	N88-23765 *
US-PATENT-CLASS-236-44C	c 31	N80-32583 *	US-PATENT-CLASS-242-187	c 37	N77-14479 *	US-PATENT-CLASS-244-132	c 24	N82-26384 *
US-PATENT-CLASS-236-49	c 31	N74-27902 *	US-PATENT-CLASS-242-192	c 14	N71-23698 *	US-PATENT-CLASS-244-132	c 24	N82-32417 *
US-PATENT-CLASS-236-68	c 15	N72-12409 *	US-PATENT-CLASS-242-193	c 37	N77-14479 *	US-PATENT-CLASS-244-134-D	c 33	N86-20671 *
US-PATENT-CLASS-237-1A	c 44	N76-14602 *	US-PATENT-CLASS-242-204	c 37	N77-14479 *	US-PATENT-CLASS-244-134-F	c 33	N87-28833 *
US-PATENT-CLASS-237-1A	c 44	N78-10554 *	US-PATENT-CLASS-242-210	c 37	N77-14479 *	US-PATENT-CLASS-244-134F	c 35	N88-29149 *
US-PATENT-CLASS-237-1A	c 44	N78-15560 *	US-PATENT-CLASS-242-54-R	c 33	N86-20669 *	US-PATENT-CLASS-244-135R	c 34	N76-17317 *
US-PATENT-CLASS-237-1A	c 44	N78-17460 *	US-PATENT-CLASS-242-54	c 15	N72-18477 *	US-PATENT-CLASS-244-135R	c 20	N80-10278 *
US-PATENT-CLASS-237-1A	c 44	N78-31525 *	US-PATENT-CLASS-242-55.19	c 14	N70-41647 *	US-PATENT-CLASS-244-135	c 31	N70-42015 *
US-PATENT-CLASS-237-1A	c 44	N79-24433 *	US-PATENT-CLASS-242-55.19	c 07	N71-10609 *	US-PATENT-CLASS-244-135	c 15	N73-12486 *
US-PATENT-CLASS-237-60	c 34	N76-17317 *	US-PATENT-CLASS-242-57	c 37	N77-14479 *	US-PATENT-CLASS-244-135	c 14	N73-27378 *
US-PATENT-CLASS-238-134	c 85	N74-34672 *	US-PATENT-CLASS-244.12.2	c 05	N82-26277 *	US-PATENT-CLASS-244-137-A	c 05	N87-14314 *
US-PATENT-CLASS-238-1	c 05	N71-28619 *	US-PATENT-CLASS-244-1SS	c 03	N72-20031 *	US-PATENT-CLASS-244-137P	c 31	N73-26876 *
US-PATENT-CLASS-239-DIG.23	c 37	N85-29283 *	US-PATENT-CLASS-244-1.55	c 03	N73-20040 *	US-PATENT-CLASS-244-137P	c 37	N76-22540 *
US-PATENT-CLASS-239-102	c 37	N80-10494 *	US-PATENT-CLASS-244-1-R	c 06	N87-22678 *	US-PATENT-CLASS-244-137P	c 01	N83-35992 *
US-PATENT-CLASS-239-127.1	c 28	N71-23968 *	US-PATENT-CLASS-244-1A	c 33	N77-10429 *	US-PATENT-CLASS-244-137R	c 08	N82-32373 *
US-PATENT-CLASS-239-127.1	c 28	N73-32606 *	US-PATENT-CLASS-244-1SA	c 34	N79-31523 *	US-PATENT-CLASS-244-138	c 01	N69-39981 *
US-PATENT-CLASS-239-127.1	c 34	N79-13288 *	US-PATENT-CLASS-244-1SA	c 21	N72-21624 *	US-PATENT-CLASS-244-138	c 02	N70-41630 *
US-PATENT-CLASS-239-127.1	c 34	N79-13288 *	US-PATENT-CLASS-244-1SA	c 21	N72-25595 *	US-PATENT-CLASS-244-138	c 31	N71-16085 *
US-PATENT-CLASS-239-127.1	c 34	N80-24573 *	US-PATENT-CLASS-244-1SA	c 03	N73-20039 *	US-PATENT-CLASS-244-138	c 31	N71-25434 *
US-PATENT-CLASS-239-127.1	c 44	N81-24519 *	US-PATENT-CLASS-244-1SA	c 15	N73-25513 *	US-PATENT-CLASS-244-138	c 31	N71-28851 *
US-PATENT-CLASS-239-127.3	c 20	N76-14191 *	US-PATENT-CLASS-244-1SA	c 21	N73-30640 *	US-PATENT-CLASS-244-139	c 31	N71-13898 *
US-PATENT-CLASS-239-127.3	c 07	N80-32392 *	US-PATENT-CLASS-244-1SA	c 19	N74-15089 *	US-PATENT-CLASS-244-139	c 02	N76-16014 *
US-PATENT-CLASS-239-132.5	c 20	N87-14420 *	US-PATENT-CLASS-244-1SB	c 35	N74-28097 *	US-PATENT-CLASS-244-139	c 05	N85-21147 *
US-PATENT-CLASS-239-171	c 37	N77-13418 *	US-PATENT-CLASS-244-1SC	c 31	N73-32750 *	US-PATENT-CLASS-244-139	c 08	N85-35200 *
US-PATENT-CLASS-239-265.11	c 18	N71-21068 *	US-PATENT-CLASS-244-1SC	c 34	N75-12222 *	US-PATENT-CLASS-244-13	c 02	N73-26005 *
US-PATENT-CLASS-239-265.11	c 07	N74-33218 *	US-PATENT-CLASS-244-1SD	c 31	N73-26876 *	US-PATENT-CLASS-244-13	c 05	N75-25914 *
US-PATENT-CLASS-239-265.11	c 07	N76-18117 *	US-PATENT-CLASS-244-1SD	c 37	N74-27903 *	US-PATENT-CLASS-244-13	c 05	N84-12154 *
US-PATENT-CLASS-239-265.15	c 37	N79-22474 *	US-PATENT-CLASS-244-1SD	c 15	N77-10112 *	US-PATENT-CLASS-244-140	c 02	N70-38009 *
US-PATENT-CLASS-239-265.17	c 07	N74-27490 *	US-PATENT-CLASS-244-1SS	c 11	N73-13257 *	US-PATENT-CLASS-244-145	c 02	N74-10034 *

US-PATENT-CLASS-244-147	c 05	N85-21147 *	US-PATENT-CLASS-244-195	c 08	N79-23097 *	US-PATENT-CLASS-244-3.22	c 20	N76-21275 *
US-PATENT-CLASS-244-14	c 14	N70-33322 *	US-PATENT-CLASS-244-195	c 08	N81-24106 *	US-PATENT-CLASS-244-31	c 02	N71-11037 *
US-PATENT-CLASS-244-15.5	c 31	N72-18859 *	US-PATENT-CLASS-244-199	c 07	N85-35194 *	US-PATENT-CLASS-244-31	c 31	N71-16081 *
US-PATENT-CLASS-244-150	c 15	N71-24600 *	US-PATENT-CLASS-244-199	c 02	N88-14071 *	US-PATENT-CLASS-244-31	c 34	N74-23039 *
US-PATENT-CLASS-244-151R	c 33	N74-22865 *	US-PATENT-CLASS-244-1	c 31	N69-27499 *	US-PATENT-CLASS-244-327	c 08	N74-30421 *
US-PATENT-CLASS-244-152	c 02	N70-36804 *	US-PATENT-CLASS-244-1	c 03	N70-33343 *	US-PATENT-CLASS-244-32	c 02	N73-13008 *
US-PATENT-CLASS-244-155	c 30	N73-12884 *	US-PATENT-CLASS-244-1	c 33	N70-33344 *	US-PATENT-CLASS-244-34A	c 05	N82-26277 *
US-PATENT-CLASS-244-155	c 31	N73-14854 *	US-PATENT-CLASS-244-1	c 03	N70-34157 *	US-PATENT-CLASS-244-35-R	c 02	N89-14224 *
US-PATENT-CLASS-244-158.R	c 20	N86-26368 *	US-PATENT-CLASS-244-1	c 31	N70-34176 *	US-PATENT-CLASS-244-35A	c 02	N84-11136 *
US-PATENT-CLASS-244-158-A	c 37	N85-30335 *	US-PATENT-CLASS-244-1	c 21	N70-34295 *	US-PATENT-CLASS-244-35R	c 02	N76-22154 *
US-PATENT-CLASS-244-158-A	c 05	N86-19310 *	US-PATENT-CLASS-244-1	c 31	N70-34296 *	US-PATENT-CLASS-244-35R	c 02	N84-11136 *
US-PATENT-CLASS-244-158-A	c 24	N88-18628 *	US-PATENT-CLASS-244-1	c 21	N70-35395 *	US-PATENT-CLASS-244-35R	c 02	N84-28732 *
US-PATENT-CLASS-244-158-R	c 05	N86-19310 *	US-PATENT-CLASS-244-1	c 31	N70-36410 *	US-PATENT-CLASS-244-35R	c 02	N87-16793 *
US-PATENT-CLASS-244-158-R	c 18	N86-20469 *	US-PATENT-CLASS-244-1	c 33	N70-36617 *	US-PATENT-CLASS-244-35	c 01	N71-13410 *
US-PATENT-CLASS-244-158A	c 27	N82-24339 *	US-PATENT-CLASS-244-1	c 21	N70-36943 *	US-PATENT-CLASS-244-40R	c 02	N76-22154 *
US-PATENT-CLASS-244-158A	c 27	N82-29456 *	US-PATENT-CLASS-244-1	c 31	N70-37924 *	US-PATENT-CLASS-244-42CG	c 33	N77-10429 *
US-PATENT-CLASS-244-158A	c 24	N82-32417 *	US-PATENT-CLASS-244-1	c 31	N70-37938 *	US-PATENT-CLASS-244-42DA	c 05	N75-25914 *
US-PATENT-CLASS-244-158A	c 24	N83-13172 *	US-PATENT-CLASS-244-1	c 31	N70-37986 *	US-PATENT-CLASS-244-42	c 02	N70-42016 *
US-PATENT-CLASS-244-158A	c 16	N84-22601 *	US-PATENT-CLASS-244-1	c 31	N70-38676 *	US-PATENT-CLASS-244-42	c 02	N71-26110 *
US-PATENT-CLASS-244-158A	c 27	N84-27886 *	US-PATENT-CLASS-244-1	c 30	N70-40016 *	US-PATENT-CLASS-244-43	c 02	N70-33255 *
US-PATENT-CLASS-244-158R	c 31	N81-25258 *	US-PATENT-CLASS-244-1	c 31	N70-41373 *	US-PATENT-CLASS-244-43	c 02	N71-11043 *
US-PATENT-CLASS-244-158R	c 16	N84-27784 *	US-PATENT-CLASS-244-1	c 31	N70-41588 *	US-PATENT-CLASS-244-44	c 02	N71-11038 *
US-PATENT-CLASS-244-158R	c 18	N85-29991 *	US-PATENT-CLASS-244-1	c 31	N70-41631 *	US-PATENT-CLASS-244-45-A	c 05	N88-28914 *
US-PATENT-CLASS-244-158R	c 37	N85-34401 *	US-PATENT-CLASS-244-1	c 31	N70-41855 *	US-PATENT-CLASS-244-45A	c 05	N78-32086 *
US-PATENT-CLASS-244-158R	c 37	N87-17036 *	US-PATENT-CLASS-244-1	c 21	N70-41856 *	US-PATENT-CLASS-244-45R	c 05	N84-12154 *
US-PATENT-CLASS-244-158	c 37	N76-22540 *	US-PATENT-CLASS-244-1	c 31	N70-42075 *	US-PATENT-CLASS-244-45	c 02	N71-12243 *
US-PATENT-CLASS-244-158	c 27	N79-12221 *	US-PATENT-CLASS-244-1	c 03	N71-11058 *	US-PATENT-CLASS-244-46	c 02	N70-33266 *
US-PATENT-CLASS-244-159	c 18	N79-11108 *	US-PATENT-CLASS-244-1	c 33	N71-14035 *	US-PATENT-CLASS-244-46	c 02	N70-33286 *
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US-PATENT-CLASS-244-159	c 18	N86-24729 *	US-PATENT-CLASS-244-1	c 21	N71-15583 *	US-PATENT-CLASS-244-46	c 31	N70-38010 *
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US-PATENT-CLASS-244-159	c 18	N88-26398 *	US-PATENT-CLASS-244-1	c 31	N71-15674 *	US-PATENT-CLASS-244-46	c 02	N71-11041 *
US-PATENT-CLASS-244-15	c 05	N75-25914 *	US-PATENT-CLASS-244-1	c 31	N71-15676 *	US-PATENT-CLASS-244-46	c 02	N73-26005 *
US-PATENT-CLASS-244-15	c 05	N88-23765 *	US-PATENT-CLASS-244-1	c 02	N71-16087 *	US-PATENT-CLASS-244-46	c 05	N76-29217 *
US-PATENT-CLASS-244-160	c 27	N79-12221 *	US-PATENT-CLASS-244-1	c 31	N71-16222 *	US-PATENT-CLASS-244-46	c 05	N78-32086 *
US-PATENT-CLASS-244-160	c 43	N81-17499 *	US-PATENT-CLASS-244-1	c 31	N71-16345 *	US-PATENT-CLASS-244-46	c 08	N79-14108 *
US-PATENT-CLASS-244-160	c 14	N81-26161 *	US-PATENT-CLASS-244-1	c 31	N71-16346 *	US-PATENT-CLASS-244-48	c 05	N79-12061 *
US-PATENT-CLASS-244-160	c 27	N82-24339 *	US-PATENT-CLASS-244-1	c 31	N71-17679 *	US-PATENT-CLASS-244-48	c 05	N82-28279 *
US-PATENT-CLASS-244-160	c 27	N82-29456 *	US-PATENT-CLASS-244-1	c 15	N71-17693 *	US-PATENT-CLASS-244-49	c 43	N81-17499 *
US-PATENT-CLASS-244-161	c 18	N76-14186 *	US-PATENT-CLASS-244-1	c 31	N71-17729 *	US-PATENT-CLASS-244-4	c 05	N69-21380 *
US-PATENT-CLASS-244-161	c 37	N76-22540 *	US-PATENT-CLASS-244-1	c 15	N71-19214 *	US-PATENT-CLASS-244-4	c 05	N71-12336 *
US-PATENT-CLASS-244-161	c 37	N77-23483 *	US-PATENT-CLASS-244-1	c 03	N71-20273 *	US-PATENT-CLASS-244-4	c 28	N71-27585 *
US-PATENT-CLASS-244-161	c 15	N78-25119 *	US-PATENT-CLASS-244-1	c 31	N71-20396 *	US-PATENT-CLASS-244-50	c 02	N70-34160 *
US-PATENT-CLASS-244-161	c 37	N80-14398 *	US-PATENT-CLASS-244-1	c 31	N71-21064 *	US-PATENT-CLASS-244-51	c 02	N70-34856 *
US-PATENT-CLASS-244-161	c 37	N81-14320 *	US-PATENT-CLASS-244-1	c 14	N71-21082 *	US-PATENT-CLASS-244-52	c 08	N81-19130 *
US-PATENT-CLASS-244-161	c 37	N81-27519 *	US-PATENT-CLASS-244-1	c 21	N71-21708 *	US-PATENT-CLASS-244-53A	c 07	N78-18066 *
US-PATENT-CLASS-244-161	c 18	N83-29303 *	US-PATENT-CLASS-244-1	c 31	N71-21881 *	US-PATENT-CLASS-244-53B	c 02	N74-20646 *
US-PATENT-CLASS-244-161	c 18	N84-22605 *	US-PATENT-CLASS-244-1	c 33	N71-22792 *	US-PATENT-CLASS-244-53B	c 07	N75-24736 *
US-PATENT-CLASS-244-161	c 16	N86-26352 *	US-PATENT-CLASS-244-1	c 31	N71-22968 *	US-PATENT-CLASS-244-53B	c 07	N77-18154 *
US-PATENT-CLASS-244-161	c 37	N87-25582 *	US-PATENT-CLASS-244-1	c 31	N71-22969 *	US-PATENT-CLASS-244-53B	c 05	N79-24976 *
US-PATENT-CLASS-244-162	c 18	N75-19329 *	US-PATENT-CLASS-244-1	c 31	N71-23009 *	US-PATENT-CLASS-244-53B	c 85	N82-33288 *
US-PATENT-CLASS-244-162	c 18	N76-17185 *	US-PATENT-CLASS-244-1	c 14	N71-23040 *	US-PATENT-CLASS-244-53R	c 05	N84-12154 *
US-PATENT-CLASS-244-163	c 37	N76-19437 *	US-PATENT-CLASS-244-1	c 31	N71-23912 *	US-PATENT-CLASS-244-53	c 28	N71-15563 *
US-PATENT-CLASS-244-163	c 24	N79-25142 *	US-PATENT-CLASS-244-1	c 31	N71-24315 *	US-PATENT-CLASS-244-54	c 07	N78-18066 *
US-PATENT-CLASS-244-163	c 34	N79-31523 *	US-PATENT-CLASS-244-1	c 15	N71-24600 *	US-PATENT-CLASS-244-54	c 07	N79-14096 *
US-PATENT-CLASS-244-163	c 05	N81-26114 *	US-PATENT-CLASS-244-1	c 05	N71-24728 *	US-PATENT-CLASS-244-55	c 02	N73-26005 *
US-PATENT-CLASS-244-163	c 37	N82-16408 *	US-PATENT-CLASS-244-1	c 33	N71-25353 *	US-PATENT-CLASS-244-55	c 05	N75-25914 *
US-PATENT-CLASS-244-163	c 27	N82-29456 *	US-PATENT-CLASS-244-1	c 31	N71-25434 *	US-PATENT-CLASS-244-55	c 05	N84-12154 *
US-PATENT-CLASS-244-163	c 35	N85-29214 *	US-PATENT-CLASS-244-1	c 31	N71-26537 *	US-PATENT-CLASS-244-55	c 07	N85-35194 *
US-PATENT-CLASS-244-164	c 35	N89-15379 *	US-PATENT-CLASS-244-1	c 15	N71-26611 *	US-PATENT-CLASS-244-55	c 07	N87-16828 *
US-PATENT-CLASS-244-165	c 15	N76-14158 *	US-PATENT-CLASS-244-1	c 28	N71-27095 *	US-PATENT-CLASS-244-55	c 05	N88-28914 *
US-PATENT-CLASS-244-165	c 35	N77-20399 *	US-PATENT-CLASS-244-1	c 21	N71-27324 *	US-PATENT-CLASS-244-57	c 15	N71-26611 *
US-PATENT-CLASS-244-165	c 35	N80-21719 *	US-PATENT-CLASS-244-1	c 33	N71-28903 *	US-PATENT-CLASS-244-63	c 09	N77-19076 *
US-PATENT-CLASS-244-165	c 08	N88-23808 *	US-PATENT-CLASS-244-1	c 15	N71-28936 *	US-PATENT-CLASS-244-63	c 14	N81-26161 *
US-PATENT-CLASS-244-165	c 35	N89-15379 *	US-PATENT-CLASS-244-1	c 31	N71-29050 *	US-PATENT-CLASS-244-63	c 16	N84-27784 *
US-PATENT-CLASS-244-167	c 15	N78-25119 *	US-PATENT-CLASS-244-1	c 31	N71-33160 *	US-PATENT-CLASS-244-63	c 18	N84-27787 *
US-PATENT-CLASS-244-168	c 04	N82-23231 *	US-PATENT-CLASS-244-200	c 02	N87-16793 *	US-PATENT-CLASS-244-75-R	c 08	N85-35200 *
US-PATENT-CLASS-244-169	c 15	N77-10113 *	US-PATENT-CLASS-244-200	c 02	N88-14071 *	US-PATENT-CLASS-244-75-R	c 05	N89-11738 *
US-PATENT-CLASS-244-169	c 18	N83-28064 *	US-PATENT-CLASS-244-204	c 02	N87-16793 *	US-PATENT-CLASS-244-75A	c 02	N73-26004 *
US-PATENT-CLASS-244-169	c 20	N86-26368 *	US-PATENT-CLASS-244-207	c 05	N88-28914 *	US-PATENT-CLASS-244-75R	c 05	N75-12930 *
US-PATENT-CLASS-244-16	c 02	N70-41863 *	US-PATENT-CLASS-244-212	c 05	N84-22551 *	US-PATENT-CLASS-244-75R	c 05	N85-21147 *
US-PATENT-CLASS-244-17.13	c 02	N73-19004 *	US-PATENT-CLASS-244-213	c 08	N82-24205 *	US-PATENT-CLASS-244-76-R	c 08	N87-10999 *
US-PATENT-CLASS-244-17.13	c 08	N79-23097 *	US-PATENT-CLASS-244-214	c 08	N85-19985 *	US-PATENT-CLASS-244-76C	c 02	N73-26004 *
US-PATENT-CLASS-244-17.19	c 08	N88-23809 *	US-PATENT-CLASS-244-215	c 05	N84-22551 *	US-PATENT-CLASS-244-76	c 21	N70-34539 *
US-PATENT-CLASS-244-17.25	c 05	N81-19087 *	US-PATENT-CLASS-244-216	c 05	N84-22551 *	US-PATENT-CLASS-244-76	c 02	N71-13422 *
US-PATENT-CLASS-244-17.27	c 05	N87-14314 *	US-PATENT-CLASS-244-217	c 37	N82-16408 *	US-PATENT-CLASS-244-76	c 02	N71-20570 *
US-PATENT-CLASS-244-170	c 35	N80-21719 *	US-PATENT-CLASS-244-218	c 05	N78-32086 *	US-PATENT-CLASS-244-77A	c 04	N74-13420 *
US-PATENT-CLASS-244-170	c 18	N83-28064 *	US-PATENT-CLASS-244-218	c 08	N79-14108 *	US-PATENT-CLASS-244-77B	c 04	N74-13420 *
US-PATENT-CLASS-244-171	c 15	N77-10113 *	US-PATENT-CLASS-244-219	c 05	N84-22551 *	US-PATENT-CLASS-244-77D	c 02	N73-19004 *
US-PATENT-CLASS-244-171	c 35	N77-20399 *	US-PATENT-CLASS-244-226	c 08	N82-24205 *	US-PATENT-CLASS-244-77F	c 02	N73-26004 *
US-PATENT-CLASS-244-172	c 18	N76-17185 *	US-PATENT-CLASS-244-23A	c 21	N72-25595 *	US-PATENT-CLASS-244-77G	c 02	N73-26004 *
US-PATENT-CLASS-244-172	c 16	N84-27784 *	US-PATENT-CLASS-244-23C	c 05	N82-26277 *	US-PATENT-CLASS-244-77	c 32	N71-23971 *
US-PATENT-CLASS-244-172	c 18	N84-27787 *	US-PATENT-CLASS-244-23D	c 34	N76-18364 *	US-PATENT-CLASS-244-78	c 08	N82-24205 *
US-PATENT-CLASS-244-172	c 05	N86-19310 *	US-PATENT-CLASS-244-23A	c 08	N86-27288 *	US-PATENT-CLASS-244-78	c 05	N89-11738 *
US-PATENT-CLASS-244-173	c 44	N75-32581 *	US-PATENT-CLASS-244-23	c 02	N71-11039 *	US-PATENT-CLASS-244-79	c 04	N76-26175 *
US-PATENT-CLASS-244-173	c 37	N81-15364 *	US-PATENT-CLASS-244-2	c 14	N81-26161 *	US-PATENT-CLASS-244-82	c 05	N79-12061 *
US-PATENT-CLASS-244-173	c 07	N83-20944 *	US-PATENT-CLASS-244-2	c 18	N84-27787 *	US-PATENT-CLASS-244-83G	c 08	N79-23097 *
US-PATENT-CLASS-244-173	c 37	N86-25789 *	US-PATENT-CLASS-244-3.14	c 31	N71-17691 *	US-PATENT-CLASS-244-83R	c 05	N75-12930 *
US-PATENT-CLASS-244-175	c 04	N82-23231 *	US-PATENT-CLASS-244-3.16	c 19	N74-15089 *	US-PATENT-CLASS-244-83	c 21	N70-33279 *
US-PATENT-CLASS-244-181	c 08	N81-24106 *	US-PATENT-CLASS-244-3.21	c 30	N72-17873 *	US-PATENT-CLASS-244-83	c 15	N71-23255 *
US-PATENT-CLASS-244-181	c 08	N81-26152 *	US-PATENT-CLASS-244-3.21	c 15	N76-14158 *	US-PATENT-CLASS-244-83	c 31	N71-33160 *
US-PATENT-CLASS-244-181	c 06	N86-27280 *	US-PATENT-CLASS-244-3.21	c 15	N77-10113 *	US-PATENT-CLASS-244-87	c 08	N74-10942 *
US-PATENT-CLASS-244-182	c 08	N81-26152 *	US-PATENT-CLASS-244-3.21	c 35	N77-20399 *	US-PATENT-CLASS-244-90R	c 08	N81-19130 *
US-PATENT-CLASS-244-190	c 04	N82-23231 *	US-PATENT-CLASS-244-3.22	c 31	N71-17629 *	US-PATENT-CLASS-244-90R	c 08	N74-30421 *
US-PATENT-CLASS-244-194	c 60	N82-29013 *	US-PATENT-CLASS-244-3.22	c 28	N72-22769 *	US-PATENT-CLASS-244-90R	c 05	N79-12061 *

US-PATENT-CLASS-244-90R	c 08	N79-14108 *	US-PATENT-CLASS-250-203	c 14	N70-40239 *	US-PATENT-CLASS-250-237R	c 19	N74-15089 *
US-PATENT-CLASS-244-90R	c 08	N85-19985 *	US-PATENT-CLASS-250-203	c 21	N71-10678 *	US-PATENT-CLASS-250-237	c 14	N69-24331 *
US-PATENT-CLASS-244-90R	c 02	N71-27088 *	US-PATENT-CLASS-250-203	c 21	N71-10771 *	US-PATENT-CLASS-250-238	c 33	N75-31332 *
US-PATENT-CLASS-244-91	c 08	N74-30421 *	US-PATENT-CLASS-250-203	c 21	N71-15642 *	US-PATENT-CLASS-250-238	c 32	N77-28346 *
US-PATENT-CLASS-244-91	c 05	N84-12154 *	US-PATENT-CLASS-250-203	c 14	N71-19568 *	US-PATENT-CLASS-250-238	c 37	N87-23982 *
US-PATENT-CLASS-244-91	c 08	N88-23809 *	US-PATENT-CLASS-250-203	c 14	N71-23269 *	US-PATENT-CLASS-250-239	c 08	N73-30135 *
US-PATENT-CLASS-244-93	c 05	N82-26277 *	US-PATENT-CLASS-250-203	c 14	N71-23797 *	US-PATENT-CLASS-250-239	c 74	N78-33913 *
US-PATENT-CLASS-244-161	c 37	N87-22985 *	US-PATENT-CLASS-250-203	c 14	N72-22444 *	US-PATENT-CLASS-250-251	c 35	N76-15431 *
US-PATENT-CLASS-247-171	c 35	N75-23910 *	US-PATENT-CLASS-250-203	c 14	N73-30393 *	US-PATENT-CLASS-250-251	c 35	N84-33767 *
US-PATENT-CLASS-248-119	c 11	N70-35383 *	US-PATENT-CLASS-250-203	c 35	N75-23910 *	US-PATENT-CLASS-250-251	c 72	N87-21661 *
US-PATENT-CLASS-248-14	c 15	N72-17454 *	US-PATENT-CLASS-250-204	c 36	N74-21091 *	US-PATENT-CLASS-250-251	c 72	N88-24253 *
US-PATENT-CLASS-248-16	c 18	N74-27397 *	US-PATENT-CLASS-250-205	c 14	N72-27411 *	US-PATENT-CLASS-250-252.1	c 35	N84-33767 *
US-PATENT-CLASS-248-178	c 15	N70-41310 *	US-PATENT-CLASS-250-205	c 09	N73-14214 *	US-PATENT-CLASS-250-253	c 43	N79-31706 *
US-PATENT-CLASS-248-178	c 37	N78-27425 *	US-PATENT-CLASS-250-205	c 36	N74-13205 *	US-PATENT-CLASS-250-272	c 74	N78-15880 *
US-PATENT-CLASS-248-183	c 14	N71-26627 *	US-PATENT-CLASS-250-206	c 10	N71-20782 *	US-PATENT-CLASS-250-272	c 43	N79-31706 *
US-PATENT-CLASS-248-183	c 15	N72-11386 *	US-PATENT-CLASS-250-207	c 14	N72-17328 *	US-PATENT-CLASS-250-277CH	c 76	N78-24950 *
US-PATENT-CLASS-248-186	c 37	N78-27425 *	US-PATENT-CLASS-250-207	c 14	N73-32317 *	US-PATENT-CLASS-250-277CH	c 74	N80-21140 *
US-PATENT-CLASS-248-186.4	c 15	N72-27484 *	US-PATENT-CLASS-250-207	c 33	N74-27682 *	US-PATENT-CLASS-250-280	c 76	N78-24950 *
US-PATENT-CLASS-248-188.9	c 31	N70-34159 *	US-PATENT-CLASS-250-208	c 14	N72-20379 *	US-PATENT-CLASS-250-280	c 74	N80-21140 *
US-PATENT-CLASS-248-18	c 14	N69-27486 *	US-PATENT-CLASS-250-209	c 07	N69-39980 *	US-PATENT-CLASS-250-281	c 35	N74-34857 *
US-PATENT-CLASS-248-18	c 15	N72-11391 *	US-PATENT-CLASS-250-209	c 20	N71-16340 *	US-PATENT-CLASS-250-281	c 35	N76-16393 *
US-PATENT-CLASS-248-20	c 15	N72-11391 *	US-PATENT-CLASS-250-209	c 10	N72-17173 *	US-PATENT-CLASS-250-281	c 36	N77-26477 *
US-PATENT-CLASS-248-228	c 37	N84-16560 *	US-PATENT-CLASS-250-209	c 14	N72-25409 *	US-PATENT-CLASS-250-281	c 72	N80-14877 *
US-PATENT-CLASS-248-22	c 19	N76-22284 *	US-PATENT-CLASS-250-209	c 14	N73-16483 *	US-PATENT-CLASS-250-282	c 36	N77-26477 *
US-PATENT-CLASS-248-23	c 18	N74-27397 *	US-PATENT-CLASS-250-209	c 14	N73-26432 *	US-PATENT-CLASS-250-282	c 72	N80-14877 *
US-PATENT-CLASS-248-278	c 15	N72-11386 *	US-PATENT-CLASS-250-209	c 14	N73-28490 *	US-PATENT-CLASS-250-282	c 35	N83-27184 *
US-PATENT-CLASS-248-27	c 15	N71-20813 *	US-PATENT-CLASS-250-209	c 21	N73-30640 *	US-PATENT-CLASS-250-283	c 36	N77-26477 *
US-PATENT-CLASS-248-316.4	c 37	N87-21333 *	US-PATENT-CLASS-250-209	c 44	N81-24520 *	US-PATENT-CLASS-250-287	c 35	N76-15431 *
US-PATENT-CLASS-248-317	c 11	N69-27466 *	US-PATENT-CLASS-250-211J	c 09	N72-17152 *	US-PATENT-CLASS-250-287	c 35	N76-16393 *
US-PATENT-CLASS-248-346	c 14	N70-39898 *	US-PATENT-CLASS-250-211J	c 09	N73-14214 *	US-PATENT-CLASS-250-288	c 35	N77-16393 *
US-PATENT-CLASS-248-358R	c 37	N75-18573 *	US-PATENT-CLASS-250-211J	c 35	N74-15090 *	US-PATENT-CLASS-250-288	c 35	N77-32456 *
US-PATENT-CLASS-248-358R	c 19	N76-22284 *	US-PATENT-CLASS-250-211K	c 74	N77-22951 *	US-PATENT-CLASS-250-288	c 35	N83-27184 *
US-PATENT-CLASS-248-358	c 15	N70-40156 *	US-PATENT-CLASS-250-211K	c 44	N80-18552 *	US-PATENT-CLASS-250-288	c 72	N87-21661 *
US-PATENT-CLASS-248-358	c 23	N71-15673 *	US-PATENT-CLASS-250-211K	c 08	N86-27288 *	US-PATENT-CLASS-250-289	c 35	N77-14406 *
US-PATENT-CLASS-248-358	c 15	N71-24694 *	US-PATENT-CLASS-250-211R	c 36	N75-19652 *	US-PATENT-CLASS-250-290	c 35	N77-10492 *
US-PATENT-CLASS-248-36-3	c 37	N78-17383 *	US-PATENT-CLASS-250-211R	c 35	N75-23910 *	US-PATENT-CLASS-250-291	c 35	N77-10492 *
US-PATENT-CLASS-248-360	c 15	N71-17649 *	US-PATENT-CLASS-250-212	c 03	N71-23354 *	US-PATENT-CLASS-250-295	c 35	N74-34857 *
US-PATENT-CLASS-248-361	c 05	N71-28619 *	US-PATENT-CLASS-250-212	c 03	N73-20040 *	US-PATENT-CLASS-250-296	c 35	N84-28016 *
US-PATENT-CLASS-248-362	c 37	N76-21554 *	US-PATENT-CLASS-250-212	c 09	N73-32109 *	US-PATENT-CLASS-250-298	c 35	N77-14406 *
US-PATENT-CLASS-248-363	c 37	N76-21554 *	US-PATENT-CLASS-250-213VT	c 74	N78-18905 *	US-PATENT-CLASS-250-304	c 25	N74-26947 *
US-PATENT-CLASS-248-425	c 37	N82-21587 *	US-PATENT-CLASS-250-214AL	c 74	N79-12890 *	US-PATENT-CLASS-250-305	c 72	N84-28575 *
US-PATENT-CLASS-248-487	c 15	N72-11386 *	US-PATENT-CLASS-250-214A	c 33	N77-14335 *	US-PATENT-CLASS-250-307	c 25	N80-20334 *
US-PATENT-CLASS-248-503	c 18	N85-29991 *	US-PATENT-CLASS-250-214R	c 14	N73-28490 *	US-PATENT-CLASS-250-308	c 25	N80-20334 *
US-PATENT-CLASS-248-548	c 37	N88-23982 *	US-PATENT-CLASS-250-214R	c 74	N79-12890 *	US-PATENT-CLASS-250-310	c 35	N78-10429 *
US-PATENT-CLASS-248-550	c 37	N85-34401 *	US-PATENT-CLASS-250-214	c 14	N73-25462 *	US-PATENT-CLASS-250-310	c 33	N80-14332 *
US-PATENT-CLASS-248-550	c 37	N87-21333 *	US-PATENT-CLASS-250-214	c 14	N73-25462 *	US-PATENT-CLASS-250-311	c 33	N83-18996 *
US-PATENT-CLASS-248-555	c 18	N85-29991 *	US-PATENT-CLASS-250-214	c 35	N74-15090 *	US-PATENT-CLASS-250-320	c 74	N78-15880 *
US-PATENT-CLASS-248-608	c 37	N88-23982 *	US-PATENT-CLASS-250-214	c 33	N82-28545 *	US-PATENT-CLASS-250-322	c 35	N78-15461 *
US-PATENT-CLASS-248-636	c 35	N83-32026 *	US-PATENT-CLASS-250-215	c 14	N73-16483 *	US-PATENT-CLASS-250-330	c 44	N82-32841 *
US-PATENT-CLASS-248-638	c 35	N83-32026 *	US-PATENT-CLASS-250-216	c 74	N79-34011 *	US-PATENT-CLASS-250-332	c 35	N75-19613 *
US-PATENT-CLASS-248-638	c 05	N87-14314 *	US-PATENT-CLASS-250-216	c 74	N82-24072 *	US-PATENT-CLASS-250-332	c 31	N78-25256 *
US-PATENT-CLASS-248	c 25	N79-28253 *	US-PATENT-CLASS-250-216	c 74	N89-14077 *	US-PATENT-CLASS-250-332	c 35	N82-31659 *
US-PATENT-CLASS-249-144	c 31	N75-13111 *	US-PATENT-CLASS-250-217F	c 14	N73-16484 *	US-PATENT-CLASS-250-332	c 74	N83-19597 *
US-PATENT-CLASS-249-145	c 31	N74-32920 *	US-PATENT-CLASS-250-217R	c 14	N73-19419 *	US-PATENT-CLASS-250-332	c 74	N84-28590 *
US-PATENT-CLASS-249-145	c 31	N75-13111 *	US-PATENT-CLASS-250-217SS	c 09	N73-14214 *	US-PATENT-CLASS-250-335	c 34	N76-18374 *
US-PATENT-CLASS-249-184	c 31	N74-32920 *	US-PATENT-CLASS-250-217SS	c 36	N74-15145 *	US-PATENT-CLASS-250-336.1	c 72	N86-33127 *
US-PATENT-CLASS-249-59	c 31	N75-13111 *	US-PATENT-CLASS-250-217	c 14	N69-39986 *	US-PATENT-CLASS-250-336	c 14	N73-28488 *
US-PATENT-CLASS-249-63	c 31	N74-32920 *	US-PATENT-CLASS-250-217	c 14	N73-16483 *	US-PATENT-CLASS-250-336	c 35	N76-15433 *
US-PATENT-CLASS-249-95	c 31	N74-32920 *	US-PATENT-CLASS-250-217	c 36	N74-13205 *	US-PATENT-CLASS-250-336	c 33	N76-27473 *
US-PATENT-CLASS-250-156	c 15	N71-16076 *	US-PATENT-CLASS-250-218	c 14	N71-22996 *	US-PATENT-CLASS-250-336	c 35	N78-13400 *
US-PATENT-CLASS-250-105	c 14	N70-40240 *	US-PATENT-CLASS-250-218	c 14	N71-28994 *	US-PATENT-CLASS-250-338	c 35	N74-18088 *
US-PATENT-CLASS-250-199	c 14	N73-30389 *	US-PATENT-CLASS-250-218	c 74	N78-33913 *	US-PATENT-CLASS-250-338	c 35	N77-10493 *
US-PATENT-CLASS-250-199	c 16	N69-27491 *	US-PATENT-CLASS-250-219DF	c 91	N74-13130 *	US-PATENT-CLASS-250-338	c 47	N77-10753 *
US-PATENT-CLASS-250-199	c 07	N71-12389 *	US-PATENT-CLASS-250-219TH	c 26	N73-26751 *	US-PATENT-CLASS-250-338	c 35	N80-26635 *
US-PATENT-CLASS-250-199	c 16	N71-22895 *	US-PATENT-CLASS-250-219	c 14	N71-28993 *	US-PATENT-CLASS-250-338	c 35	N83-21311 *
US-PATENT-CLASS-250-199	c 16	N71-25914 *	US-PATENT-CLASS-250-221	c 33	N82-28545 *	US-PATENT-CLASS-250-338	c 74	N84-28590 *
US-PATENT-CLASS-250-199	c 16	N71-27183 *	US-PATENT-CLASS-250-221	c 74	N85-22139 *	US-PATENT-CLASS-250-338	c 72	N86-33127 *
US-PATENT-CLASS-250-199	c 16	N73-16536 *	US-PATENT-CLASS-250-225	c 14	N71-24864 *	US-PATENT-CLASS-250-338	c 76	N87-13313 *
US-PATENT-CLASS-250-199	c 07	N73-26119 *	US-PATENT-CLASS-250-225	c 14	N72-27409 *	US-PATENT-CLASS-250-339	c 35	N77-10493 *
US-PATENT-CLASS-250-199	c 74	N76-18913 *	US-PATENT-CLASS-250-225	c 32	N86-20647 *	US-PATENT-CLASS-250-339	c 47	N77-10753 *
US-PATENT-CLASS-250-199	c 74	N76-30053 *	US-PATENT-CLASS-250-226	c 14	N72-25409 *	US-PATENT-CLASS-250-339	c 35	N84-33766 *
US-PATENT-CLASS-250-199	c 74	N77-26942 *	US-PATENT-CLASS-250-226	c 43	N79-17288 *	US-PATENT-CLASS-250-339	c 36	N85-21631 *
US-PATENT-CLASS-250-199	c 32	N77-28346 *	US-PATENT-CLASS-250-226	c 74	N82-30071 *	US-PATENT-CLASS-250-339	c 36	N85-29264 *
US-PATENT-CLASS-250-199	c 60	N77-32731 *	US-PATENT-CLASS-250-227	c 14	N71-22991 *	US-PATENT-CLASS-250-339	c 36	N87-28006 *
US-PATENT-CLASS-250-199	c 74	N78-14889 *	US-PATENT-CLASS-250-227	c 14	N71-23240 *	US-PATENT-CLASS-250-340	c 35	N76-29551 *
US-PATENT-CLASS-250-201	c 14	N70-40238 *	US-PATENT-CLASS-250-227	c 60	N77-14751 *	US-PATENT-CLASS-250-340	c 74	N83-19597 *
US-PATENT-CLASS-250-201	c 35	N75-15014 *	US-PATENT-CLASS-250-227	c 74	N78-33913 *	US-PATENT-CLASS-250-340	c 72	N86-33127 *
US-PATENT-CLASS-250-201	c 74	N78-17866 *	US-PATENT-CLASS-250-227	c 74	N83-19597 *	US-PATENT-CLASS-250-341	c 32	N87-21206 *
US-PATENT-CLASS-250-203R	c 14	N72-27409 *	US-PATENT-CLASS-250-227	c 74	N84-11921 *	US-PATENT-CLASS-250-343	c 35	N74-11284 *
US-PATENT-CLASS-250-203R	c 14	N73-25462 *	US-PATENT-CLASS-250-228	c 74	N86-26190 *	US-PATENT-CLASS-250-343	c 25	N74-26947 *
US-PATENT-CLASS-250-203R	c 14	N73-28490 *	US-PATENT-CLASS-250-229	c 08	N73-30135 *	US-PATENT-CLASS-250-343	c 45	N75-27585 *
US-PATENT-CLASS-250-203R	c 21	N73-30640 *	US-PATENT-CLASS-250-231-GY	c 74	N87-23259 *	US-PATENT-CLASS-250-343	c 74	N76-20958 *
US-PATENT-CLASS-250-203R	c 19	N74-15089 *	US-PATENT-CLASS-250-231R	c 74	N82-30071 *	US-PATENT-CLASS-250-343	c 25	N76-22323 *
US-PATENT-CLASS-250-203R	c 89	N74-30886 *	US-PATENT-CLASS-250-231SE	c 74	N74-21304 *	US-PATENT-CLASS-250-343	c 35	N77-14411 *
US-PATENT-CLASS-250-203R	c 35	N77-20401 *	US-PATENT-CLASS-250-231SE	c 44	N80-18552 *	US-PATENT-CLASS-250-343	c 35	N78-13400 *
US-PATENT-CLASS-250-203R	c 74	N77-22951 *	US-PATENT-CLASS-250-231	c 14	N73-20475 *	US-PATENT-CLASS-250-343	c 25	N81-14015 *
US-PATENT-CLASS-250-203R	c 44	N81-24520 *	US-PATENT-CLASS-250-232	c 23	N71-21821 *	US-PATENT-CLASS-250-343	c 35	N84-34705 *
US-PATENT-CLASS-250-203R	c 32	N83-18975 *	US-PATENT-CLASS-250-233	c 23	N71-16100 *	US-PATENT-CLASS-250-343	c 36	N85-21631 *
US-PATENT-CLASS-250-203R	c 47	N83-32232 *	US-PATENT-CLASS-250-234	c 03	N73-20040 *	US-PATENT-CLASS-250-343	c 36	N87-28006 *
US-PATENT-CLASS-250-203R	c 44	N88-14492 *	US-PATENT-CLASS-250-235	c 14	N72-11364 *	US-PATENT-CLASS-250-344	c 25	N76-22323 *
US-PATENT-CLASS-250-203X	c 16	N72-13437 *	US-PATENT-CLASS-250-235	c 43	N82-13465 *	US-PATENT-CLASS-250-344	c 74	N78-17867 *
US-PATENT-CLASS-250-203	c 14	N69-27432 *	US-PATENT-CLASS-250-235	c 74	N82-24072 *	US-PATENT-CLASS-250-345	c 45	N75-27585 *
US-PATENT-CLASS-250-203	c 14	N69-27485 *	US-PATENT-CLASS-250-236	c 21	N73-30640 *	US-PATENT-CLASS-250-347	c 35	N77-10493 *
US-PATENT-CLASS-250-203	c 07	N69-39736 *	US-PATENT-CLASS-250-236	c 43	N82-13465 *	US-PATENT-CLASS-250-347	c 47	N77-10753 *
US-PATENT-CLASS-250-203	c 14	N70-34158 *	US-PATENT-CLASS-250-237G	c 74	N79-20856 *	US-PATENT-CLASS-250-347	c 74	N80-33210 *
US-PATENT-CLASS-250-203	c 21	N70-35089 *	US-PATENT-CLASS-250-237R	c 08	N73-30135 *	US-PATENT-CLASS-250-350	c 25	N81-25159 *

US-PATENT-CLASS-250-350	c 74	N83-19597 *	US-PATENT-CLASS-250-43.5R	c 06	N72-31141 *	US-PATENT-CLASS-250-83.3	c 14	N71-27323 *
US-PATENT-CLASS-250-351	c 35	N75-30502 *	US-PATENT-CLASS-250-43.5	c 27	N71-16348 *	US-PATENT-CLASS-250-83.3	c 14	N72-17328 *
US-PATENT-CLASS-250-351	c 35	N78-13400 *	US-PATENT-CLASS-250-43.5	c 15	N71-24896 *	US-PATENT-CLASS-250-83.3	c 35	N75-27329 *
US-PATENT-CLASS-250-351	c 74	N83-19597 *	US-PATENT-CLASS-250-43.5	c 14	N71-25901 *	US-PATENT-CLASS-250-83.6R	c 14	N71-27090 *
US-PATENT-CLASS-250-351	c 35	N84-34705 *	US-PATENT-CLASS-250-432R	c 25	N76-22323 *	US-PATENT-CLASS-250-83.6R	c 14	N72-20381 *
US-PATENT-CLASS-250-352	c 31	N79-17029 *	US-PATENT-CLASS-250-432	c 45	N75-27585 *	US-PATENT-CLASS-250-83.6R	c 25	N72-33696 *
US-PATENT-CLASS-250-352	c 34	N79-20336 *	US-PATENT-CLASS-250-444	c 52	N77-14737 *	US-PATENT-CLASS-250-83.6R	c 74	N81-19898 *
US-PATENT-CLASS-250-352	c 35	N80-26635 *	US-PATENT-CLASS-250-457	c 35	N80-28686 *	US-PATENT-CLASS-250-83.6	c 10	N70-41991 *
US-PATENT-CLASS-250-352	c 74	N80-33210 *	US-PATENT-CLASS-250-460	c 37	N75-26372 *	US-PATENT-CLASS-250-83CD	c 91	N74-13130 *
US-PATENT-CLASS-250-352	c 37	N87-23982 *	US-PATENT-CLASS-250-474.1	c 35	N83-21311 *	US-PATENT-CLASS-250-83R	c 14	N73-12445 *
US-PATENT-CLASS-250-353	c 35	N76-29551 *	US-PATENT-CLASS-250-475	c 35	N79-10389 *	US-PATENT-CLASS-250-83R	c 14	N73-20477 *
US-PATENT-CLASS-250-353	c 35	N80-26635 *	US-PATENT-CLASS-250-483.1	c 35	N84-33765 *	US-PATENT-CLASS-250-83	c 14	N69-27484 *
US-PATENT-CLASS-250-353	c 74	N80-33210 *	US-PATENT-CLASS-250-483	c 74	N79-20857 *	US-PATENT-CLASS-250-83	c 14	N69-39937 *
US-PATENT-CLASS-250-356.1	c 47	N84-28292 *	US-PATENT-CLASS-250-483	c 74	N81-24900 *	US-PATENT-CLASS-250-83	c 09	N71-18830 *
US-PATENT-CLASS-250-359	c 37	N75-26372 *	US-PATENT-CLASS-250-489	c 35	N76-15433 *	US-PATENT-CLASS-250-83	c 05	N71-19440 *
US-PATENT-CLASS-250-360	c 35	N74-15091 *	US-PATENT-CLASS-250-49.5B	c 24	N72-11595 *	US-PATENT-CLASS-250-83	c 14	N71-20430 *
US-PATENT-CLASS-250-361	c 35	N74-15091 *	US-PATENT-CLASS-250-49.5TE	c 24	N72-11595 *	US-PATENT-CLASS-250-83	c 14	N71-23401 *
US-PATENT-CLASS-250-363R	c 52	N77-14737 *	US-PATENT-CLASS-250-49.5	c 14	N69-39982 *	US-PATENT-CLASS-250-83	c 09	N71-27232 *
US-PATENT-CLASS-250-363R	c 74	N79-20857 *	US-PATENT-CLASS-250-49.5	c 14	N71-28863 *	US-PATENT-CLASS-250-84	c 14	N71-24809 *
US-PATENT-CLASS-250-363R	c 74	N84-11920 *	US-PATENT-CLASS-250-49.5	c 14	N72-17328 *	US-PATENT-CLASS-251-118	c 15	N71-18580 *
US-PATENT-CLASS-250-363S	c 74	N84-11920 *	US-PATENT-CLASS-250-491	c 35	N80-28686 *	US-PATENT-CLASS-251-11	c 15	N70-35407 *
US-PATENT-CLASS-250-363S	c 35	N85-30281 *	US-PATENT-CLASS-250-492A	c 33	N80-14332 *	US-PATENT-CLASS-251-120	c 37	N74-21065 *
US-PATENT-CLASS-250-367	c 35	N84-33765 *	US-PATENT-CLASS-250-492B	c 25	N78-27226 *	US-PATENT-CLASS-251-121	c 15	N71-18580 *
US-PATENT-CLASS-250-368	c 74	N81-24900 *	US-PATENT-CLASS-250-492R	c 25	N76-29379 *	US-PATENT-CLASS-251-122	c 15	N73-13462 *
US-PATENT-CLASS-250-368	c 74	N84-11920 *	US-PATENT-CLASS-250-492R	c 28	N78-24365 *	US-PATENT-CLASS-251-122	c 37	N74-21065 *
US-PATENT-CLASS-250-369	c 35	N74-15091 *	US-PATENT-CLASS-250-492	c 35	N74-15091 *	US-PATENT-CLASS-251-127	c 12	N71-18615 *
US-PATENT-CLASS-250-369	c 25	N82-32653 *	US-PATENT-CLASS-250-492	c 37	N75-26372 *	US-PATENT-CLASS-251-127	c 44	N84-14583 *
US-PATENT-CLASS-250-369	c 35	N85-30281 *	US-PATENT-CLASS-250-493	c 73	N75-30876 *	US-PATENT-CLASS-251-129.15	c 37	N87-25573 *
US-PATENT-CLASS-250-370	c 35	N74-18088 *	US-PATENT-CLASS-250-495	c 74	N75-12732 *	US-PATENT-CLASS-251-129	c 15	N72-20442 *
US-PATENT-CLASS-250-370	c 33	N75-31332 *	US-PATENT-CLASS-250-496	c 73	N75-30876 *	US-PATENT-CLASS-251-138	c 37	N80-23654 *
US-PATENT-CLASS-250-370	c 35	N82-31659 *	US-PATENT-CLASS-250-498	c 52	N77-14737 *	US-PATENT-CLASS-251-148	c 15	N71-23024 *
US-PATENT-CLASS-250-370	c 44	N82-32841 *	US-PATENT-CLASS-250-499	c 73	N74-26767 *	US-PATENT-CLASS-251-149.6	c 37	N76-14463 *
US-PATENT-CLASS-250-370	c 76	N87-13313 *	US-PATENT-CLASS-250-499	c 72	N76-15860 *	US-PATENT-CLASS-251-149.9	c 37	N79-11402 *
US-PATENT-CLASS-250-371	c 35	N74-18088 *	US-PATENT-CLASS-250-499	c 37	N78-13436 *	US-PATENT-CLASS-251-165	c 37	N87-21332 *
US-PATENT-CLASS-250-372	c 19	N74-29410 *	US-PATENT-CLASS-250-500	c 72	N76-15860 *	US-PATENT-CLASS-251-172	c 15	N71-21234 *
US-PATENT-CLASS-250-372	c 24	N76-24363 *	US-PATENT-CLASS-250-505	c 74	N74-27866 *	US-PATENT-CLASS-251-172	c 37	N79-33469 *
US-PATENT-CLASS-250-372	c 33	N76-27473 *	US-PATENT-CLASS-250-505	c 35	N75-19616 *	US-PATENT-CLASS-251-173	c 15	N70-33376 *
US-PATENT-CLASS-250-372	c 35	N83-21311 *	US-PATENT-CLASS-250-508	c 35	N75-19616 *	US-PATENT-CLASS-251-175	c 37	N87-25573 *
US-PATENT-CLASS-250-372	c 35	N84-33765 *	US-PATENT-CLASS-250-51.5	c 23	N73-13662 *	US-PATENT-CLASS-251-210	c 37	N74-21065 *
US-PATENT-CLASS-250-373	c 25	N74-26947 *	US-PATENT-CLASS-250-51.5	c 14	N73-28491 *	US-PATENT-CLASS-251-216	c 37	N81-17433 *
US-PATENT-CLASS-250-373	c 35	N75-30502 *	US-PATENT-CLASS-250-51.5	c 35	N75-19616 *	US-PATENT-CLASS-251-265	c 37	N85-20338 *
US-PATENT-CLASS-250-373	c 45	N76-17656 *	US-PATENT-CLASS-250-511	c 74	N74-27866 *	US-PATENT-CLASS-251-267	c 37	N85-20338 *
US-PATENT-CLASS-250-373	c 36	N87-28006 *	US-PATENT-CLASS-250-513	c 35	N80-28686 *	US-PATENT-CLASS-251-284	c 37	N85-20338 *
US-PATENT-CLASS-250-374	c 35	N74-26949 *	US-PATENT-CLASS-250-518	c 14	N73-30392 *	US-PATENT-CLASS-251-297	c 37	N85-20338 *
US-PATENT-CLASS-250-374	c 35	N85-34374 *	US-PATENT-CLASS-250-51	c 24	N72-11595 *	US-PATENT-CLASS-251-31	c 15	N71-19485 *
US-PATENT-CLASS-250-379	c 35	N85-34374 *	US-PATENT-CLASS-250-527	c 37	N76-18458 *	US-PATENT-CLASS-251-325	c 37	N85-29284 *
US-PATENT-CLASS-250-385	c 35	N74-26949 *	US-PATENT-CLASS-250-527	c 25	N77-32255 *	US-PATENT-CLASS-251-331	c 15	N72-31483 *
US-PATENT-CLASS-250-385	c 35	N75-27331 *	US-PATENT-CLASS-250-527	c 44	N77-32580 *	US-PATENT-CLASS-251-333	c 15	N70-34859 *
US-PATENT-CLASS-250-385	c 35	N76-15433 *	US-PATENT-CLASS-250-527	c 44	N79-11470 *	US-PATENT-CLASS-251-333	c 12	N71-18615 *
US-PATENT-CLASS-250-385	c 35	N76-16393 *	US-PATENT-CLASS-250-527	c 44	N82-16475 *	US-PATENT-CLASS-251-333	c 15	N72-20442 *
US-PATENT-CLASS-250-385	c 35	N82-24471 *	US-PATENT-CLASS-250-528	c 25	N78-25148 *	US-PATENT-CLASS-251-333	c 37	N75-25185 *
US-PATENT-CLASS-250-385	c 35	N84-33765 *	US-PATENT-CLASS-250-52	c 15	N71-15606 *	US-PATENT-CLASS-251-339	c 37	N81-17433 *
US-PATENT-CLASS-250-386	c 35	N82-24471 *	US-PATENT-CLASS-250-52	c 11	N71-23042 *	US-PATENT-CLASS-251-342	c 12	N71-18615 *
US-PATENT-CLASS-250-388	c 33	N83-24763 *	US-PATENT-CLASS-250-52	c 24	N72-11595 *	US-PATENT-CLASS-251-349	c 37	N85-29284 *
US-PATENT-CLASS-250-389	c 35	N82-24471 *	US-PATENT-CLASS-250-52	c 23	N73-13662 *	US-PATENT-CLASS-251-353	c 37	N85-29284 *
US-PATENT-CLASS-250-394	c 14	N73-30392 *	US-PATENT-CLASS-250-531	c 25	N78-25148 *	US-PATENT-CLASS-251-358	c 15	N71-17648 *
US-PATENT-CLASS-250-394	c 19	N74-29410 *	US-PATENT-CLASS-250-531	c 33	N79-15245 *	US-PATENT-CLASS-251-360	c 15	N72-25451 *
US-PATENT-CLASS-250-396R	c 72	N87-21661 *	US-PATENT-CLASS-250-540	c 33	N79-15245 *	US-PATENT-CLASS-251-61.1	c 12	N71-18615 *
US-PATENT-CLASS-250-396	c 35	N77-14408 *	US-PATENT-CLASS-250-541	c 33	N79-15245 *	US-PATENT-CLASS-251-61	c 15	N71-10778 *
US-PATENT-CLASS-250-398	c 35	N78-10429 *	US-PATENT-CLASS-250-551	c 74	N79-34011 *	US-PATENT-CLASS-251-7	c 37	N79-28550 *
US-PATENT-CLASS-250-400	c 25	N76-29379 *	US-PATENT-CLASS-250-563	c 38	N78-17396 *	US-PATENT-CLASS-251-86	c 15	N72-31483 *
US-PATENT-CLASS-250-400	c 25	N78-27226 *	US-PATENT-CLASS-250-566	c 74	N75-25706 *	US-PATENT-CLASS-251-86	c 37	N80-23654 *
US-PATENT-CLASS-250-41.9D	c 14	N72-29464 *	US-PATENT-CLASS-250-571	c 36	N78-14380 *	US-PATENT-CLASS-252-12.2	c 24	N79-17916 *
US-PATENT-CLASS-250-41.9G	c 14	N73-12444 *	US-PATENT-CLASS-250-572	c 38	N78-17395 *	US-PATENT-CLASS-252-12	c 15	N71-23810 *
US-PATENT-CLASS-250-41.9S	c 14	N73-12444 *	US-PATENT-CLASS-250-572	c 38	N78-17396 *	US-PATENT-CLASS-252-12	c 24	N76-22309 *
US-PATENT-CLASS-250-41.9S	c 14	N71-28992 *	US-PATENT-CLASS-250-573	c 74	N76-20958 *	US-PATENT-CLASS-252-182.1	c 33	N84-14422 *
US-PATENT-CLASS-250-41.9	c 06	N71-13461 *	US-PATENT-CLASS-250-573	c 34	N83-31993 *	US-PATENT-CLASS-252-26	c 15	N71-21403 *
US-PATENT-CLASS-250-41.9	c 24	N71-16095 *	US-PATENT-CLASS-250-574	c 45	N76-21742 *	US-PATENT-CLASS-252-26	c 15	N71-24046 *
US-PATENT-CLASS-250-41.9	c 14	N71-23041 *	US-PATENT-CLASS-250-574	c 36	N77-25501 *	US-PATENT-CLASS-252-2	c 25	N83-36118 *
US-PATENT-CLASS-250-41.9	c 14	N71-28863 *	US-PATENT-CLASS-250-576	c 35	N74-27860 *	US-PATENT-CLASS-252-300	c 14	N72-22443 *
US-PATENT-CLASS-250-41.9	c 14	N72-17328 *	US-PATENT-CLASS-250-578	c 36	N75-19652 *	US-PATENT-CLASS-252-300	c 24	N76-24363 *
US-PATENT-CLASS-250-41.9	c 14	N73-32325 *	US-PATENT-CLASS-250-65F	c 15	N72-25452 *	US-PATENT-CLASS-252-301.1R	c 35	N79-10389 *
US-PATENT-CLASS-250-416TV	c 35	N78-15461 *	US-PATENT-CLASS-250-65R	c 14	N73-30389 *	US-PATENT-CLASS-252-301.16	c 35	N79-10389 *
US-PATENT-CLASS-250-423-P	c 72	N87-21661 *	US-PATENT-CLASS-250-71.5R	c 14	N72-29464 *	US-PATENT-CLASS-252-301.2	c 18	N71-27170 *
US-PATENT-CLASS-250-423-P	c 25	N88-24732 *	US-PATENT-CLASS-250-71.5	c 14	N72-17328 *	US-PATENT-CLASS-252-301.4	c 06	N73-30097 *
US-PATENT-CLASS-250-423-R	c 33	N87-21234 *	US-PATENT-CLASS-250-71R	c 06	N73-16106 *	US-PATENT-CLASS-252-305	c 06	N73-30097 *
US-PATENT-CLASS-250-423-R	c 72	N87-21660 *	US-PATENT-CLASS-250-71	c 14	N70-41676 *	US-PATENT-CLASS-252-359A	c 37	N77-13418 *
US-PATENT-CLASS-250-423-R	c 72	N88-24253 *	US-PATENT-CLASS-250-83.3H	c 14	N72-21408 *	US-PATENT-CLASS-252-361	c 71	N83-35781 *
US-PATENT-CLASS-250-423P	c 36	N77-26477 *	US-PATENT-CLASS-250-83.3H	c 14	N72-24477 *	US-PATENT-CLASS-252-364	c 28	N81-15119 *
US-PATENT-CLASS-250-423P	c 25	N78-25148 *	US-PATENT-CLASS-250-83.3H	c 14	N73-12445 *	US-PATENT-CLASS-252-373	c 44	N76-29704 *
US-PATENT-CLASS-250-423P	c 72	N80-14877 *	US-PATENT-CLASS-250-83.3H	c 14	N73-20475 *	US-PATENT-CLASS-252-373	c 44	N77-10636 *
US-PATENT-CLASS-250-423	c 35	N76-15431 *	US-PATENT-CLASS-250-83.3H	c 14	N73-25462 *	US-PATENT-CLASS-252-408	c 14	N73-14428 *
US-PATENT-CLASS-250-423	c 35	N76-16393 *	US-PATENT-CLASS-250-83.3R	c 14	N73-12445 *	US-PATENT-CLASS-252-422	c 45	N82-11634 *
US-PATENT-CLASS-250-423	c 35	N83-27184 *	US-PATENT-CLASS-250-83.3R	c 14	N73-20477 *	US-PATENT-CLASS-252-431N	c 06	N73-32029 *
US-PATENT-CLASS-250-424	c 72	N87-21660 *	US-PATENT-CLASS-250-83.3R	c 14	N73-32317 *	US-PATENT-CLASS-252-431R	c 06	N73-32029 *
US-PATENT-CLASS-250-426	c 33	N85-21491 *	US-PATENT-CLASS-250-83.3UV	c 10	N72-17173 *	US-PATENT-CLASS-252-472	c 25	N78-10225 *
US-PATENT-CLASS-250-427	c 72	N80-27163 *	US-PATENT-CLASS-250-83.3UV	c 14	N72-25409 *	US-PATENT-CLASS-252-514	c 05	N72-25120 *
US-PATENT-CLASS-250-427	c 72	N87-21660 *	US-PATENT-CLASS-250-83.3UV	c 06	N73-16106 *	US-PATENT-CLASS-252-514	c 44	N79-31752 *
US-PATENT-CLASS-250-427	c 72	N88-24253 *	US-PATENT-CLASS-250-83.3	c 21	N70-33181 *	US-PATENT-CLASS-252-514	c 25	N82-26396 *
US-PATENT-CLASS-250-427	c 25	N88-24732 *	US-PATENT-CLASS-250-83.3	c 21	N70-34297 *	US-PATENT-CLASS-252-518	c 24	N79-14156 *
US-PATENT-CLASS-250-429	c 25	N76-29379 *	US-PATENT-CLASS-250-83.3	c 14	N71-15599 *	US-PATENT-CLASS-252-549	c 23	N75-14834 *
US-PATENT-CLASS-250-429	c 25	N78-27226 *	US-PATENT-CLASS-250-83.3	c 14	N71-18699 *	US-PATENT-CLASS-252-58	c 18	N70-39897 *
US-PATENT-CLASS-250-43.5FC	c 14	N72-11365 *	US-PATENT-CLASS-250-83.3	c 14	N71-21088 *	US-PATENT-CLASS-252-5	c 25	N83-33977 *
US-PATENT-CLASS-250-43.5R	c 14	N71-27090 *	US-PATENT-CLASS-250-83.3	c 09	N71-22985 *	US-PATENT-CLASS-252-5	c 25	N83-36118 *
US-PATENT-CLASS-250-43.5R	c 14	N72-21408 *	US-PATENT-CLASS-250-83.3	c 14	N71-25901 *	US-PATENT-CLASS-252-62.3E	c 44	N80-24741 *
US-PATENT-CLASS-250-43.5R	c 06	N72-25146 *	US-PATENT-CLASS-250-83.3	c 14	N71-26475 *	US-PATENT-CLASS-252-62.3E	c 44	N81-19558 *



US-PATENT-CLASS-252-62.3GA	c 25	N75-26043 *	US-PATENT-CLASS-260-2	c 06	N71-20717 *	US-PATENT-CLASS-260-65	c 27	N78-32261 *
US-PATENT-CLASS-252-62.3	c 26	N71-23292 *	US-PATENT-CLASS-260-2	c 06	N71-20905 *	US-PATENT-CLASS-260-65	c 23	N82-29358 *
US-PATENT-CLASS-252-62.3	c 76	N76-25049 *	US-PATENT-CLASS-260-2	c 06	N71-27363 *	US-PATENT-CLASS-260-67	c 27	N78-17214 *
US-PATENT-CLASS-252-62	c 27	N74-27037 *	US-PATENT-CLASS-260-2	c 06	N73-30102 *	US-PATENT-CLASS-260-67	c 27	N79-21191 *
US-PATENT-CLASS-252-70	c 23	N75-14834 *	US-PATENT-CLASS-260-2	c 27	N79-21190 *	US-PATENT-CLASS-260-72.5	c 06	N71-11236 *
US-PATENT-CLASS-252-8.1	c 18	N73-26572 *	US-PATENT-CLASS-260-30.2	c 06	N73-27980 *	US-PATENT-CLASS-260-72.5	c 06	N71-11239 *
US-PATENT-CLASS-252-8.1	c 27	N74-27037 *	US-PATENT-CLASS-260-30.4N	c 27	N78-17205 *	US-PATENT-CLASS-260-72.5	c 06	N71-24740 *
US-PATENT-CLASS-252-8.1	c 24	N78-14096 *	US-PATENT-CLASS-260-30.8DS	c 06	N73-27980 *	US-PATENT-CLASS-260-75NH	c 27	N78-17213 *
US-PATENT-CLASS-253-317	c 44	N77-22606 *	US-PATENT-CLASS-260-307G	c 27	N79-22300 *	US-PATENT-CLASS-260-75NK	c 27	N78-17213 *
US-PATENT-CLASS-253-39.15	c 15	N70-33226 *	US-PATENT-CLASS-260-32.2R	c 27	N78-17205 *	US-PATENT-CLASS-260-75NT	c 27	N78-17213 *
US-PATENT-CLASS-253-39.15	c 15	N70-33264 *	US-PATENT-CLASS-260-32.6NT	c 27	N78-17205 *	US-PATENT-CLASS-260-77.5AM	c 27	N78-17213 *
US-PATENT-CLASS-253-39.15	c 28	N70-33372 *	US-PATENT-CLASS-260-32.6N	c 06	N73-27980 *	US-PATENT-CLASS-260-77.5AN	c 27	N78-17213 *
US-PATENT-CLASS-253-39.1	c 33	N71-29152 *	US-PATENT-CLASS-260-32.6N	c 23	N76-15268 *	US-PATENT-CLASS-260-77.5AP	c 06	N72-27144 *
US-PATENT-CLASS-253-66	c 15	N70-36412 *	US-PATENT-CLASS-260-32.8N	c 23	N76-15268 *	US-PATENT-CLASS-260-77.5AP	c 06	N73-33076 *
US-PATENT-CLASS-253-66	c 28	N70-39895 *	US-PATENT-CLASS-260-326N	c 27	N81-17260 *	US-PATENT-CLASS-260-77.5AP	c 27	N77-31308 *
US-PATENT-CLASS-253-77	c 28	N71-28928 *	US-PATENT-CLASS-260-326S	c 27	N81-17260 *	US-PATENT-CLASS-260-77.5AP	c 27	N78-17213 *
US-PATENT-CLASS-253-77	c 28	N71-29154 *	US-PATENT-CLASS-260-33.4R	c 06	N73-27980 *	US-PATENT-CLASS-260-77.5AT	c 27	N78-17213 *
US-PATENT-CLASS-253	c 25	N79-28253 *	US-PATENT-CLASS-260-33.4R	c 27	N78-17205 *	US-PATENT-CLASS-260-77.55P	c 27	N78-17213 *
US-PATENT-CLASS-254-124	c 20	N76-22296 *	US-PATENT-CLASS-260-33.4R	c 27	N81-19296 *	US-PATENT-CLASS-260-77.5	c 06	N73-30099 *
US-PATENT-CLASS-254-131	c 60	N82-24839 *	US-PATENT-CLASS-260-33.6P	c 24	N78-27180 *	US-PATENT-CLASS-260-77.5	c 06	N73-30100 *
US-PATENT-CLASS-254-150	c 15	N71-24599 *	US-PATENT-CLASS-260-33.6PQ	c 24	N78-27180 *	US-PATENT-CLASS-260-77.5	c 06	N73-30103 *
US-PATENT-CLASS-254-156	c 15	N73-25512 *	US-PATENT-CLASS-260-33.6R	c 06	N73-27980 *	US-PATENT-CLASS-260-78.41	c 27	N78-31232 *
US-PATENT-CLASS-254-156	c 54	N77-21844 *	US-PATENT-CLASS-260-33.6UB	c 27	N81-15104 *	US-PATENT-CLASS-260-78TF	c 06	N73-27980 *
US-PATENT-CLASS-254-173	c 15	N71-24599 *	US-PATENT-CLASS-260-33.8EP	c 24	N78-27180 *	US-PATENT-CLASS-260-78TF	c 27	N74-23125 *
US-PATENT-CLASS-254-186	c 15	N71-24599 *	US-PATENT-CLASS-260-33.8F	c 27	N76-24405 *	US-PATENT-CLASS-260-78TF	c 23	N75-30256 *
US-PATENT-CLASS-254-190	c 15	N72-25453 *	US-PATENT-CLASS-260-33.8F	c 25	N81-14016 *	US-PATENT-CLASS-260-78TF	c 23	N76-15268 *
US-PATENT-CLASS-254-29A	c 15	N73-30457 *	US-PATENT-CLASS-260-33.8UA	c 24	N78-27180 *	US-PATENT-CLASS-260-78TF	c 27	N78-32261 *
US-PATENT-CLASS-254-93-H	c 35	N88-24927 *	US-PATENT-CLASS-260-340.9R	c 23	N82-16174 *	US-PATENT-CLASS-260-78UA	c 06	N73-27980 *
US-PATENT-CLASS-254-93-R	c 35	N88-24927 *	US-PATENT-CLASS-260-346.3	c 23	N75-30256 *	US-PATENT-CLASS-260-78	c 06	N71-11235 *
US-PATENT-CLASS-254-93R	c 35	N74-13129 *	US-PATENT-CLASS-260-346.3	c 23	N76-15268 *	US-PATENT-CLASS-260-78	c 06	N71-11238 *
US-PATENT-CLASS-254-93R	c 20	N76-22296 *	US-PATENT-CLASS-260-346.3	c 27	N80-32515 *	US-PATENT-CLASS-260-830S	c 15	N79-26100 *
US-PATENT-CLASS-256-13.1	c 37	N79-10420 *	US-PATENT-CLASS-260-348SC	c 06	N72-25148 *	US-PATENT-CLASS-260-85.5	c 06	N71-23500 *
US-PATENT-CLASS-256-1	c 37	N79-10420 *	US-PATENT-CLASS-260-37EP	c 24	N78-27180 *	US-PATENT-CLASS-260-858	c 27	N81-14076 *
US-PATENT-CLASS-256-308.2	c 27	N86-20561 *	US-PATENT-CLASS-260-37EP	c 15	N79-26100 *	US-PATENT-CLASS-260-877	c 06	N72-22107 *
US-PATENT-CLASS-259-DIG.18	c 35	N74-15093 *	US-PATENT-CLASS-260-37EP	c 27	N81-17260 *	US-PATENT-CLASS-260-879	c 27	N76-16228 *
US-PATENT-CLASS-259-4AC	c 37	N76-19436 *	US-PATENT-CLASS-260-37N	c 27	N79-28307 *	US-PATENT-CLASS-260-886	c 27	N81-14076 *
US-PATENT-CLASS-259-4	c 15	N73-19458 *	US-PATENT-CLASS-260-37N	c 18	N71-25881 *	US-PATENT-CLASS-260-8900	c 27	N81-14076 *
US-PATENT-CLASS-259-60	c 35	N74-15093 *	US-PATENT-CLASS-260-37	c 27	N81-24258 *	US-PATENT-CLASS-260-895	c 27	N81-14076 *
US-PATENT-CLASS-259-71	c 15	N71-21177 *	US-PATENT-CLASS-260-386	c 25	N82-24312 *	US-PATENT-CLASS-260-898	c 27	N81-14076 *
US-PATENT-CLASS-259-72	c 37	N74-18123 *	US-PATENT-CLASS-260-386	c 23	N88-26404 *	US-PATENT-CLASS-260-900	c 27	N76-16228 *
US-PATENT-CLASS-259-98	c 35	N74-15126 *	US-PATENT-CLASS-260-388	c 25	N82-24312 *	US-PATENT-CLASS-260-901	c 27	N81-14076 *
US-PATENT-CLASS-259/4R	c 34	N77-24423 *	US-PATENT-CLASS-260-389	c 23	N88-26404 *	US-PATENT-CLASS-260-92.1	c 06	N72-25150 *
US-PATENT-CLASS-260-46.5E	c 27	N74-21156 *	US-PATENT-CLASS-260-389	c 23	N88-26404 *	US-PATENT-CLASS-260-92.1	c 06	N72-25152 *
US-PATENT-CLASS-260-DIG.15	c 27	N78-14164 *	US-PATENT-CLASS-260-395	c 23	N88-26404 *	US-PATENT-CLASS-260-92.1	c 27	N76-16228 *
US-PATENT-CLASS-260-DIG.24	c 27	N74-27037 *	US-PATENT-CLASS-260-396N	c 27	N74-27037 *	US-PATENT-CLASS-260-92.1	c 27	N76-24405 *
US-PATENT-CLASS-260-DIG.24	c 27	N76-24405 *	US-PATENT-CLASS-260-404.5	c 18	N71-15688 *	US-PATENT-CLASS-260-926	c 27	N80-10358 *
US-PATENT-CLASS-260-DIG.29	c 27	N80-24438 *	US-PATENT-CLASS-260-42.17	c 27	N78-17215 *	US-PATENT-CLASS-260-927-N	c 23	N86-19376 *
US-PATENT-CLASS-260-17.2	c 24	N80-26388 *	US-PATENT-CLASS-260-42.43	c 24	N78-27180 *	US-PATENT-CLASS-260-93.5A	c 06	N73-32029 *
US-PATENT-CLASS-260-17.2	c 24	N81-13999 *	US-PATENT-CLASS-260-429	c 06	N71-28808 *	US-PATENT-CLASS-260-93.5S	c 06	N73-32029 *
US-PATENT-CLASS-260-17.4UC	c 23	N81-29160 *	US-PATENT-CLASS-260-42	c 27	N79-28307 *	US-PATENT-CLASS-260-94.2M	c 06	N73-32029 *
US-PATENT-CLASS-260-17A	c 27	N81-14076 *	US-PATENT-CLASS-260-448.2D	c 06	N72-25151 *	US-PATENT-CLASS-260-94.2R	c 06	N73-32029 *
US-PATENT-CLASS-260-18S	c 06	N72-25151 *	US-PATENT-CLASS-260-448.2D	c 06	N73-32030 *	US-PATENT-CLASS-260-94.7R	c 06	N73-32029 *
US-PATENT-CLASS-260-2.1E	c 18	N72-22567 *	US-PATENT-CLASS-260-448.2N	c 37	N74-21058 *	US-PATENT-CLASS-260-94.8	c 27	N73-22710 *
US-PATENT-CLASS-260-2.1E	c 27	N81-14076 *	US-PATENT-CLASS-260-448.2	c 06	N71-23230 *	US-PATENT-CLASS-260-959	c 27	N78-32256 *
US-PATENT-CLASS-260-2.1E	c 25	N81-19244 *	US-PATENT-CLASS-260-45.7R	c 24	N78-27180 *	US-PATENT-CLASS-260-96D	c 28	N81-15119 *
US-PATENT-CLASS-260-2.1	c 25	N81-17187 *	US-PATENT-CLASS-260-45.7R	c 27	N82-16238 *	US-PATENT-CLASS-261-DIG.75	c 34	N77-24423 *
US-PATENT-CLASS-260-2.2R	c 25	N81-17187 *	US-PATENT-CLASS-260-45.75W	c 24	N78-27180 *	US-PATENT-CLASS-261-118	c 31	N80-18231 *
US-PATENT-CLASS-260-2.2R	c 25	N81-19244 *	US-PATENT-CLASS-260-45.7	c 27	N76-24405 *	US-PATENT-CLASS-261-123	c 34	N77-24423 *
US-PATENT-CLASS-260-2.5AK	c 27	N76-15310 *	US-PATENT-CLASS-260-45.85N	c 24	N78-27180 *	US-PATENT-CLASS-261-145	c 28	N72-22772 *
US-PATENT-CLASS-260-2.5AK	c 24	N78-24290 *	US-PATENT-CLASS-260-45.9R	c 24	N78-27180 *	US-PATENT-CLASS-261-28	c 07	N81-29129 *
US-PATENT-CLASS-260-2.5AM	c 27	N74-12812 *	US-PATENT-CLASS-260-46.5E	c 06	N72-25151 *	US-PATENT-CLASS-261-78A	c 35	N86-29174 *
US-PATENT-CLASS-260-2.5AM	c 27	N77-31308 *	US-PATENT-CLASS-260-46.5G	c 06	N72-25151 *	US-PATENT-CLASS-261-79A	c 54	N81-24724 *
US-PATENT-CLASS-260-2.5AP	c 24	N78-24290 *	US-PATENT-CLASS-260-46.5P	c 06	N72-25151 *	US-PATENT-CLASS-263-48	c 15	N69-27483 *
US-PATENT-CLASS-260-2.5AY	c 27	N77-31308 *	US-PATENT-CLASS-260-46.5R	c 06	N73-26100 *	US-PATENT-CLASS-264-DIG.36	c 18	N73-14584 *
US-PATENT-CLASS-260-2.5A	c 27	N77-31308 *	US-PATENT-CLASS-260-46.5	c 06	N71-11237 *	US-PATENT-CLASS-264-DIG.44	c 15	N72-16329 *
US-PATENT-CLASS-260-2.5BE	c 24	N78-24290 *	US-PATENT-CLASS-260-46.5	c 06	N71-11240 *	US-PATENT-CLASS-264-DIG.64	c 27	N88-23894 *
US-PATENT-CLASS-260-2.5B	c 24	N78-24290 *	US-PATENT-CLASS-260-46.55R	c 27	N81-24256 *	US-PATENT-CLASS-264-DIG.65	c 27	N85-20124 *
US-PATENT-CLASS-260-2.5EP	c 24	N78-24290 *	US-PATENT-CLASS-260-46.55R	c 27	N84-22744 *	US-PATENT-CLASS-264-102	c 15	N71-10672 *
US-PATENT-CLASS-260-2.5FP	c 06	N72-25147 *	US-PATENT-CLASS-260-46.56	c 27	N84-22744 *	US-PATENT-CLASS-264-102	c 15	N73-12489 *
US-PATENT-CLASS-260-2.5FP	c 27	N74-27037 *	US-PATENT-CLASS-260-47CP	c 06	N73-27980 *	US-PATENT-CLASS-264-102	c 31	N74-14133 *
US-PATENT-CLASS-260-2.5FP	c 24	N78-24290 *	US-PATENT-CLASS-260-47CP	c 23	N76-15268 *	US-PATENT-CLASS-264-102	c 31	N74-18124 *
US-PATENT-CLASS-260-2.5F	c 18	N73-13562 *	US-PATENT-CLASS-260-47CP	c 27	N78-32261 *	US-PATENT-CLASS-264-102	c 37	N76-24575 *
US-PATENT-CLASS-260-2.5L	c 27	N74-12814 *	US-PATENT-CLASS-260-47CP	c 27	N78-32261 *	US-PATENT-CLASS-264-102	c 15	N79-26100 *
US-PATENT-CLASS-260-2.5N	c 24	N78-15180 *	US-PATENT-CLASS-260-47UP	c 06	N73-32029 *	US-PATENT-CLASS-264-104	c 05	N72-25120 *
US-PATENT-CLASS-260-2.5N	c 27	N78-31232 *	US-PATENT-CLASS-260-47	c 06	N71-28620 *	US-PATENT-CLASS-264-104	c 27	N81-24257 *
US-PATENT-CLASS-260-2.5R	c 27	N74-27037 *	US-PATENT-CLASS-260-47	c 06	N71-28807 *	US-PATENT-CLASS-264-104	c 23	N81-29160 *
US-PATENT-CLASS-260-2.5R	c 24	N78-15180 *	US-PATENT-CLASS-260-485F	c 06	N73-30098 *	US-PATENT-CLASS-264-104	c 25	N83-13188 *
US-PATENT-CLASS-260-2.5	c 06	N71-11242 *	US-PATENT-CLASS-260-49	c 27	N78-32261 *	US-PATENT-CLASS-264-105	c 27	N81-24257 *
US-PATENT-CLASS-260-2.5	c 06	N71-24739 *	US-PATENT-CLASS-260-520	c 23	N75-30256 *	US-PATENT-CLASS-264-111	c 17	N71-29137 *
US-PATENT-CLASS-260-2.5	c 06	N71-25929 *	US-PATENT-CLASS-260-535H	c 06	N72-27144 *	US-PATENT-CLASS-264-112	c 27	N85-20124 *
US-PATENT-CLASS-260-2.5	c 18	N71-26155 *	US-PATENT-CLASS-260-53	c 27	N79-28307 *	US-PATENT-CLASS-264-118	c 24	N80-26388 *
US-PATENT-CLASS-260-2.5	c 06	N72-25150 *	US-PATENT-CLASS-260-544-D	c 27	N86-21675 *	US-PATENT-CLASS-264-118	c 24	N84-16262 *
US-PATENT-CLASS-260-2P	c 27	N78-32256 *	US-PATENT-CLASS-260-544-P	c 27	N87-14515 *	US-PATENT-CLASS-264-119	c 24	N80-26388 *
US-PATENT-CLASS-260-2R	c 37	N74-18126 *	US-PATENT-CLASS-260-544F	c 06	N72-25121 *	US-PATENT-CLASS-264-120	c 27	N85-20124 *
US-PATENT-CLASS-260-2R	c 27	N74-27037 *	US-PATENT-CLASS-260-544P	c 27	N86-27450 *	US-PATENT-CLASS-264-124	c 24	N80-26388 *
US-PATENT-CLASS-260-2R	c 27	N78-15276 *	US-PATENT-CLASS-260-551P	c 27	N78-32256 *	US-PATENT-CLASS-264-129	c 37	N76-31524 *
US-PATENT-CLASS-260-211.5	c 06	N72-25149 *	US-PATENT-CLASS-260-566B	c 27	N76-32315 *	US-PATENT-CLASS-264-12	c 31	N83-35176 *
US-PATENT-CLASS-260-240G	c 27	N76-32315 *	US-PATENT-CLASS-260-567.6M	c 06	N73-32029 *	US-PATENT-CLASS-264-130	c 27	N78-32262 *
US-PATENT-CLASS-260-245.75	c 27	N86-19455 *	US-PATENT-CLASS-260-571	c 23	N76-15268 *	US-PATENT-CLASS-264-135	c 37	N74-18126 *
US-PATENT-CLASS-260-245.9	c 27	N86-19455 *	US-PATENT-CLASS-260-606.5P	c 27	N78-32256 *	US-PATENT-CLASS-264-136	c 37	N74-18126 *
US-PATENT-CLASS-260-28.5	c 27	N78-33228 *	US-PATENT-CLASS-260-615	c 06	N71-27254 *	US-PATENT-CLASS-264-137	c 27	N79-33316 *
US-PATENT-CLASS-260-29.1R	c 24	N78-24290 *	US-PATENT-CLASS-260-615	c 06	N73-30101 *	US-PATENT-CLASS-264-137	c 27	N81-14078 *
US-PATENT-CLASS-260-29.6RB	c 25	N81-19242 *	US-PATENT-CLASS-260-63N	c 27	N78-31232 *	US-PATENT-CLASS-264-137	c 27	N81-29229 *
US-PATENT-CLASS-260-29.6S	c 27	N74-17283 *	US-PATENT-CLASS-260-63N	c 27	N78-32261 *	US-PATENT-CLASS-264-137	c 27	N83-34041 *
US-PATENT-CLASS-260-29.6	c 26	N75-27125 *	US-PATENT-CLASS-260-63R	c 27	N78-32261 *	US-PATENT-CLASS-264-137	c 27	N85-20124 *
US-PATENT-CLASS-260-2	c 06	N71-11243 *	US-PATENT-CLASS-260-65	c 06	N73-27980 *	US-PATENT-CLASS-264-145	c 15	N79-26100 *



US-PATENT-CLASS-264-151	c 15	N79-26100 *	US-PATENT-CLASS-264-92	c 15	N72-24522 *	US-PATENT-CLASS-277-74	c 37	N76-22541 *
US-PATENT-CLASS-264-152	c 27	N85-20124 *	US-PATENT-CLASS-264-9	c 31	N81-33319 *	US-PATENT-CLASS-277-80	c 37	N85-29284 *
US-PATENT-CLASS-264-157	c 24	N78-17150 *	US-PATENT-CLASS-264-9	c 31	N83-31896 *	US-PATENT-CLASS-277-81R	c 37	N82-16408 *
US-PATENT-CLASS-264-161	c 37	N76-31524 *	US-PATENT-CLASS-266-119	c 26	N80-28492 *	US-PATENT-CLASS-277-91	c 37	N74-15125 *
US-PATENT-CLASS-264-175	c 15	N79-26100 *	US-PATENT-CLASS-266-19	c 15	N70-33382 *	US-PATENT-CLASS-277-93R	c 37	N76-22541 *
US-PATENT-CLASS-264-184	c 27	N78-32262 *	US-PATENT-CLASS-266-249	c 26	N80-28492 *	US-PATENT-CLASS-277-93R	c 37	N82-12442 *
US-PATENT-CLASS-264-1	c 44	N79-24432 *	US-PATENT-CLASS-266-24	c 17	N72-28535 *	US-PATENT-CLASS-277-96.1	c 37	N79-22475 *
US-PATENT-CLASS-264-204	c 27	N86-29039 *	US-PATENT-CLASS-266-274	c 26	N80-28492 *	US-PATENT-CLASS-277-96	c 37	N74-10474 *
US-PATENT-CLASS-264-211	c 27	N78-32262 *	US-PATENT-CLASS-267-150	c 37	N85-34401 *	US-PATENT-CLASS-277-96	c 37	N81-24442 *
US-PATENT-CLASS-264-212	c 27	N80-32516 *	US-PATENT-CLASS-267-166	c 34	N74-18552 *	US-PATENT-CLASS-279-1B	c 37	N75-33395 *
US-PATENT-CLASS-264-212	c 27	N86-31727 *	US-PATENT-CLASS-267-1	c 15	N69-27504 *	US-PATENT-CLASS-279-107	c 37	N75-33395 *
US-PATENT-CLASS-264-216	c 25	N82-21268 *	US-PATENT-CLASS-267-1	c 15	N70-38225 *	US-PATENT-CLASS-279-3	c 37	N78-17383 *
US-PATENT-CLASS-264-216	c 27	N86-29039 *	US-PATENT-CLASS-267-64	c 15	N71-21530 *	US-PATENT-CLASS-279-89	c 37	N75-33395 *
US-PATENT-CLASS-264-217	c 25	N75-12087 *	US-PATENT-CLASS-267-8R	c 37	N85-34401 *	US-PATENT-CLASS-280-150SB	c 05	N75-25915 *
US-PATENT-CLASS-264-219	c 37	N76-31524 *	US-PATENT-CLASS-269-147	c 35	N88-24927 *	US-PATENT-CLASS-280-432	c 37	N77-14477 *
US-PATENT-CLASS-264-220	c 27	N82-28440 *	US-PATENT-CLASS-269-152	c 18	N83-29303 *	US-PATENT-CLASS-280-47.11	c 85	N87-21755 *
US-PATENT-CLASS-264-221	c 15	N72-16329 *	US-PATENT-CLASS-269-153	c 44	N79-19447 *	US-PATENT-CLASS-280-805	c 37	N82-18601 *
US-PATENT-CLASS-264-225	c 15	N72-16329 *	US-PATENT-CLASS-269-156	c 37	N80-14398 *	US-PATENT-CLASS-285-DIG.21	c 15	N72-25450 *
US-PATENT-CLASS-264-227	c 15	N72-16329 *	US-PATENT-CLASS-269-21	c 37	N76-21554 *	US-PATENT-CLASS-285-DIG.21	c 33	N73-26958 *
US-PATENT-CLASS-264-229	c 24	N81-29163 *	US-PATENT-CLASS-269-21	c 37	N78-17383 *	US-PATENT-CLASS-285-107	c 37	N89-13786 *
US-PATENT-CLASS-264-22	c 15	N72-20446 *	US-PATENT-CLASS-269-21	c 37	N78-27423 *	US-PATENT-CLASS-285-108	c 37	N89-13786 *
US-PATENT-CLASS-264-22	c 14	N72-22439 *	US-PATENT-CLASS-269-21	c 76	N80-18951 *	US-PATENT-CLASS-285-109	c 37	N89-13786 *
US-PATENT-CLASS-264-22	c 25	N75-12087 *	US-PATENT-CLASS-269-21	c 37	N81-33482 *	US-PATENT-CLASS-285-114	c 37	N75-19686 *
US-PATENT-CLASS-264-22	c 27	N80-32516 *	US-PATENT-CLASS-269-224	c 37	N84-28083 *	US-PATENT-CLASS-285-133.1	c 37	N89-13786 *
US-PATENT-CLASS-264-22	c 27	N82-28440 *	US-PATENT-CLASS-269-242	c 18	N83-29303 *	US-PATENT-CLASS-285-137.1	c 35	N87-28884 *
US-PATENT-CLASS-264-230	c 37	N82-24491 *	US-PATENT-CLASS-269-242	c 37	N84-28083 *	US-PATENT-CLASS-285-159	c 37	N82-24494 *
US-PATENT-CLASS-264-231	c 24	N91-20162 *	US-PATENT-CLASS-269-244	c 16	N83-29303 *	US-PATENT-CLASS-285-166	c 54	N82-24494 *
US-PATENT-CLASS-264-236	c 27	N78-32262 *	US-PATENT-CLASS-269-244	c 37	N84-28083 *	US-PATENT-CLASS-285-168	c 54	N86-28620 *
US-PATENT-CLASS-264-236	c 15	N79-26100 *	US-PATENT-CLASS-269-246	c 35	N88-24927 *	US-PATENT-CLASS-285-168	c 54	N86-29507 *
US-PATENT-CLASS-264-236	c 27	N86-29039 *	US-PATENT-CLASS-269-252	c 37	N84-28083 *	US-PATENT-CLASS-285-184	c 54	N86-29507 *
US-PATENT-CLASS-264-236	c 27	N86-31727 *	US-PATENT-CLASS-269-266	c 37	N78-27423 *	US-PATENT-CLASS-285-18	c 15	N72-20445 *
US-PATENT-CLASS-264-23	c 71	N78-10837 *	US-PATENT-CLASS-269-267	c 37	N89-13785 *	US-PATENT-CLASS-285-192	c 20	N78-24275 *
US-PATENT-CLASS-264-23	c 31	N81-15154 *	US-PATENT-CLASS-269-285	c 37	N84-28083 *	US-PATENT-CLASS-285-226	c 37	N75-19686 *
US-PATENT-CLASS-264-24	c 31	N81-33319 *	US-PATENT-CLASS-269-287	c 37	N80-23655 *	US-PATENT-CLASS-285-226	c 37	N76-14460 *
US-PATENT-CLASS-264-24	c 31	N83-35176 *	US-PATENT-CLASS-269-3	c 37	N84-12491 *	US-PATENT-CLASS-285-227	c 54	N86-29507 *
US-PATENT-CLASS-264-257	c 37	N74-18126 *	US-PATENT-CLASS-269-43	c 37	N88-14360 *	US-PATENT-CLASS-285-235	c 54	N78-31735 *
US-PATENT-CLASS-264-258	c 24	N81-29163 *	US-PATENT-CLASS-269-48.1	c 39	N74-13131 *	US-PATENT-CLASS-285-235	c 54	N79-24651 *
US-PATENT-CLASS-264-258	c 27	N83-34041 *	US-PATENT-CLASS-269-71	c 37	N88-14360 *	US-PATENT-CLASS-285-24	c 15	N71-10782 *
US-PATENT-CLASS-264-258	c 27	N85-20124 *	US-PATENT-CLASS-269-73	c 37	N88-14360 *	US-PATENT-CLASS-285-265	c 37	N76-14460 *
US-PATENT-CLASS-264-259	c 24	N81-29163 *	US-PATENT-CLASS-272-498	c 15	N73-28515 *	US-PATENT-CLASS-285-27	c 15	N70-41808 *
US-PATENT-CLASS-264-267	c 37	N76-24575 *	US-PATENT-CLASS-272-DIG.1	c 05	N73-32014 *	US-PATENT-CLASS-285-27	c 18	N87-27713 *
US-PATENT-CLASS-264-27	c 26	N71-17818 *	US-PATENT-CLASS-272-DIG.4	c 05	N73-32014 *	US-PATENT-CLASS-285-305	c 37	N87-22977 *
US-PATENT-CLASS-264-28	c 15	N73-12489 *	US-PATENT-CLASS-272-DIG.5	c 05	N73-32014 *	US-PATENT-CLASS-285-314	c 15	N71-24903 *
US-PATENT-CLASS-264-291	c 74	N87-28416 *	US-PATENT-CLASS-272-1R	c 09	N75-15662 *	US-PATENT-CLASS-285-316	c 15	N72-25450 *
US-PATENT-CLASS-264-294	c 31	N74-13177 *	US-PATENT-CLASS-272-57A	c 09	N75-15662 *	US-PATENT-CLASS-285-316	c 33	N73-26958 *
US-PATENT-CLASS-264-3R	c 28	N77-10213 *	US-PATENT-CLASS-272-70	c 05	N71-28619 *	US-PATENT-CLASS-285-317	c 15	N71-24903 *
US-PATENT-CLASS-264-3R	c 20	N77-17143 *	US-PATENT-CLASS-272-73	c 14	N73-27377 *	US-PATENT-CLASS-285-31	c 18	N87-27713 *
US-PATENT-CLASS-264-304	c 37	N76-31524 *	US-PATENT-CLASS-272-73	c 05	N73-27941 *	US-PATENT-CLASS-285-326	c 37	N79-11402 *
US-PATENT-CLASS-264-305	c 37	N76-31524 *	US-PATENT-CLASS-272-73	c 37	N74-18127 *	US-PATENT-CLASS-285-331	c 15	N70-41629 *
US-PATENT-CLASS-264-308	c 37	N76-31524 *	US-PATENT-CLASS-272-79C	c 05	N73-32014 *	US-PATENT-CLASS-285-33	c 15	N72-25450 *
US-PATENT-CLASS-264-310	c 37	N76-31524 *	US-PATENT-CLASS-272-80	c 37	N74-18127 *	US-PATENT-CLASS-285-345	c 15	N72-20445 *
US-PATENT-CLASS-264-311	c 24	N81-29163 *	US-PATENT-CLASS-273-1E	c 05	N73-13114 *	US-PATENT-CLASS-285-351	c 37	N89-13786 *
US-PATENT-CLASS-264-318	c 37	N76-31524 *	US-PATENT-CLASS-273-240	c 31	N83-34073 *	US-PATENT-CLASS-285-359	c 37	N79-11402 *
US-PATENT-CLASS-264-331.12	c 27	N85-20124 *	US-PATENT-CLASS-274-4R	c 09	N72-11224 *	US-PATENT-CLASS-285-373	c 18	N87-27713 *
US-PATENT-CLASS-264-331.19	c 27	N85-20124 *	US-PATENT-CLASS-277-105	c 37	N82-24490 *	US-PATENT-CLASS-285-37	c 37	N82-24490 *
US-PATENT-CLASS-264-331.46	c 27	N83-34041 *	US-PATENT-CLASS-277-116.6	c 37	N84-11497 *	US-PATENT-CLASS-285-38	c 15	N71-24903 *
US-PATENT-CLASS-264-331	c 27	N76-16230 *	US-PATENT-CLASS-277-124	c 37	N84-11497 *	US-PATENT-CLASS-285-39	c 37	N89-13786 *
US-PATENT-CLASS-264-332	c 37	N81-25371 *	US-PATENT-CLASS-277-134	c 37	N75-21631 *	US-PATENT-CLASS-285-3	c 15	N69-27490 *
US-PATENT-CLASS-264-332	c 27	N87-28656 *	US-PATENT-CLASS-277-134	c 07	N78-25090 *	US-PATENT-CLASS-285-3	c 15	N72-25450 *
US-PATENT-CLASS-264-334	c 37	N76-31524 *	US-PATENT-CLASS-277-135	c 37	N85-29284 *	US-PATENT-CLASS-285-401	c 37	N82-24494 *
US-PATENT-CLASS-264-33	c 44	N79-24432 *	US-PATENT-CLASS-277-13	c 15	N71-26294 *	US-PATENT-CLASS-285-406	c 15	N71-24903 *
US-PATENT-CLASS-264-342R	c 37	N82-24491 *	US-PATENT-CLASS-277-153	c 37	N80-28711 *	US-PATENT-CLASS-285-410	c 05	N72-11085 *
US-PATENT-CLASS-264-345	c 71	N78-10837 *	US-PATENT-CLASS-277-153	c 37	N81-26447 *	US-PATENT-CLASS-285-421	c 18	N87-27713 *
US-PATENT-CLASS-264-347	c 27	N86-29039 *	US-PATENT-CLASS-277-164	c 37	N84-11497 *	US-PATENT-CLASS-285-45	c 15	N71-28937 *
US-PATENT-CLASS-264-34	c 44	N79-24432 *	US-PATENT-CLASS-277-177	c 37	N84-11497 *	US-PATENT-CLASS-285-81	c 37	N87-22977 *
US-PATENT-CLASS-264-35	c 44	N79-24432 *	US-PATENT-CLASS-277-181	c 37	N81-15363 *	US-PATENT-CLASS-285-85	c 37	N87-22977 *
US-PATENT-CLASS-264-36	c 15	N73-12489 *	US-PATENT-CLASS-277-189	c 37	N82-16408 *	US-PATENT-CLASS-285-86	c 18	N87-27713 *
US-PATENT-CLASS-264-36	c 32	N74-27612 *	US-PATENT-CLASS-277-190	c 37	N84-11497 *	US-PATENT-CLASS-285-89	c 37	N82-24494 *
US-PATENT-CLASS-264-3	c 28	N71-26779 *	US-PATENT-CLASS-277-192	c 37	N79-22474 *	US-PATENT-CLASS-285-901	c 35	N87-28884 *
US-PATENT-CLASS-264-40.4	c 35	N80-18357 *	US-PATENT-CLASS-277-193	c 37	N80-28711 *	US-PATENT-CLASS-285-91	c 37	N87-22977 *
US-PATENT-CLASS-264-40	c 15	N73-12489 *	US-PATENT-CLASS-277-193	c 37	N81-26447 *	US-PATENT-CLASS-285-97	c 37	N89-13786 *
US-PATENT-CLASS-264-41	c 25	N81-19244 *	US-PATENT-CLASS-277-1	c 37	N82-24490 *	US-PATENT-CLASS-287-119	c 15	N70-41829 *
US-PATENT-CLASS-264-41	c 51	N84-28361 *	US-PATENT-CLASS-277-204	c 37	N82-24490 *	US-PATENT-CLASS-287-189.365	c 15	N71-26312 *
US-PATENT-CLASS-264-453	c 25	N82-21268 *	US-PATENT-CLASS-277-224	c 37	N80-28711 *	US-PATENT-CLASS-287-189.36	c 15	N71-10799 *
US-PATENT-CLASS-264-50	c 27	N88-23894 *	US-PATENT-CLASS-277-229	c 37	N81-15363 *	US-PATENT-CLASS-287-54A	c 11	N72-25287 *
US-PATENT-CLASS-264-510	c 44	N79-24432 *	US-PATENT-CLASS-277-25	c 15	N69-21362 *	US-PATENT-CLASS-287-85R	c 15	N73-12488 *
US-PATENT-CLASS-264-516	c 44	N79-24432 *	US-PATENT-CLASS-277-25	c 15	N71-19570 *	US-PATENT-CLASS-287-92	c 31	N73-32749 *
US-PATENT-CLASS-264-53	c 25	N82-21268 *	US-PATENT-CLASS-277-25	c 15	N72-29488 *	US-PATENT-CLASS-29-DIG.1	c 44	N81-14389 *
US-PATENT-CLASS-264-59	c 24	N84-16262 *	US-PATENT-CLASS-277-25	c 37	N74-10474 *	US-PATENT-CLASS-29-DIG.2A	c 24	N75-33181 *
US-PATENT-CLASS-264-5	c 31	N81-33319 *	US-PATENT-CLASS-277-25	c 07	N78-25090 *	US-PATENT-CLASS-29-DIG.35	c 37	N77-23482 *
US-PATENT-CLASS-264-5	c 27	N82-28442 *	US-PATENT-CLASS-277-27	c 15	N72-29488 *	US-PATENT-CLASS-29-DIG.39	c 24	N75-33181 *
US-PATENT-CLASS-264-5	c 31	N83-31896 *	US-PATENT-CLASS-277-27	c 37	N74-10474 *	US-PATENT-CLASS-29-125	c 37	N79-10422 *
US-PATENT-CLASS-264-5	c 31	N83-35176 *	US-PATENT-CLASS-277-27	c 37	N74-15125 *	US-PATENT-CLASS-29-148.4A	c 37	N74-15128 *
US-PATENT-CLASS-264-5	c 26	N86-32551 *	US-PATENT-CLASS-277-27	c 37	N75-21631 *	US-PATENT-CLASS-29-148.4B	c 37	N74-15128 *
US-PATENT-CLASS-264-60	c 27	N76-22376 *	US-PATENT-CLASS-277-27	c 37	N82-12442 *	US-PATENT-CLASS-29-148.4	c 15	N71-16052 *
US-PATENT-CLASS-264-60	c 27	N79-14213 *	US-PATENT-CLASS-277-2	c 37	N82-24490 *	US-PATENT-CLASS-29-148.4	c 15	N71-17688 *
US-PATENT-CLASS-264-60	c 24	N84-16262 *	US-PATENT-CLASS-277-40	c 37	N75-21631 *	US-PATENT-CLASS-29-155.55	c 15	N71-15986 *
US-PATENT-CLASS-264-60	c 27	N87-28656 *	US-PATENT-CLASS-277-40	c 37	N82-12442 *	US-PATENT-CLASS-29-156.5-R	c 24	N87-27742 *
US-PATENT-CLASS-264-63	c 27	N76-22376 *	US-PATENT-CLASS-277-41	c 37	N76-22541 *	US-PATENT-CLASS-29-156.8R	c 37	N78-24544 *
US-PATENT-CLASS-264-63	c 27	N87-28656 *	US-PATENT-CLASS-277-41	c 37	N76-22541 *	US-PATENT-CLASS-29-157.3H	c 74	N83-19596 *
US-PATENT-CLASS-264-65	c 18	N73-14584 *	US-PATENT-CLASS-277-4	c 37	N82-24490 *	US-PATENT-CLASS-29-157.3R	c 34	N74-18552 *
US-PATENT-CLASS-264-66	c 27	N76-22376 *	US-PATENT-CLASS-277-53	c 37	N86-20788 *	US-PATENT-CLASS-29-157.3	c 28	N70-41818 *
US-PATENT-CLASS-264-70	c 44	N79-24432 *	US-PATENT-CLASS-277-59	c 37	N82-24490 *	US-PATENT-CLASS-29-157	c 28	N71-15658 *
US-PATENT-CLASS-264-71	c 44	N79-24432 *	US-PATENT-CLASS-277-62	c 37	N79-22475 *	US-PATENT-CLASS-29-182.1	c 18	N71-23710 *
US-PATENT-CLASS-264-90	c 24	N78-17150 *	US-PATENT-CLASS-277-72R	c 37	N82-24490 *	US-PATENT-CLASS-29-182.2	c 17	N71-23046 *
US-PATENT-CLASS-264-92	c 15	N71-17803 *	US-PATENT-CLASS-277-74	c 15	N72-29488 *	US-PATENT-CLASS-29-182.2	c 37	N75-26371 *

US-PATENT-CLASS-29-182.5	c 17	N72-28536 *	US-PATENT-CLASS-29-497.5	c 37	N74-11300 *	US-PATENT-CLASS-29-613	c 24	N75-30260 *
US-PATENT-CLASS-29-182.5	c 37	N75-26371 *	US-PATENT-CLASS-29-497.5	c 37	N75-13261 *	US-PATENT-CLASS-29-613	c 35	N82-24470 *
US-PATENT-CLASS-29-182.5	c 27	N76-15311 *	US-PATENT-CLASS-29-497	c 09	N72-25261 *	US-PATENT-CLASS-29-620	c 35	N82-31659 *
US-PATENT-CLASS-29-182.5	c 27	N77-13217 *	US-PATENT-CLASS-29-497	c 15	N73-32358 *	US-PATENT-CLASS-29-622	c 33	N77-26385 *
US-PATENT-CLASS-29-182	c 37	N74-13179 *	US-PATENT-CLASS-29-497	c 37	N74-18128 *	US-PATENT-CLASS-29-623.5	c 44	N83-32176 *
US-PATENT-CLASS-29-182	c 34	N76-27515 *	US-PATENT-CLASS-29-498	c 09	N72-25261 *	US-PATENT-CLASS-29-623.5	c 26	N84-22734 *
US-PATENT-CLASS-29-183.5	c 17	N70-38490 *	US-PATENT-CLASS-29-498	c 15	N73-33383 *	US-PATENT-CLASS-29-623.5	c 44	N84-28205 *
US-PATENT-CLASS-29-193	c 34	N76-27515 *	US-PATENT-CLASS-29-498	c 37	N74-11301 *	US-PATENT-CLASS-29-624	c 15	N72-20444 *
US-PATENT-CLASS-29-194	c 26	N75-19408 *	US-PATENT-CLASS-29-498	c 37	N74-18128 *	US-PATENT-CLASS-29-624	c 14	N73-13417 *
US-PATENT-CLASS-29-194	c 44	N76-14595 *	US-PATENT-CLASS-29-498	c 37	N74-21055 *	US-PATENT-CLASS-29-627	c 44	N80-14474 *
US-PATENT-CLASS-29-195A	c 27	N76-16229 *	US-PATENT-CLASS-29-502	c 09	N72-25261 *	US-PATENT-CLASS-29-628	c 15	N72-22491 *
US-PATENT-CLASS-29-195Y	c 14	N73-32320 *	US-PATENT-CLASS-29-503	c 37	N74-11301 *	US-PATENT-CLASS-29-628	c 09	N72-25261 *
US-PATENT-CLASS-29-195	c 44	N76-14595 *	US-PATENT-CLASS-29-504	c 37	N74-21055 *	US-PATENT-CLASS-29-628	c 09	N73-28083 *
US-PATENT-CLASS-29-196.2	c 17	N73-32414 *	US-PATENT-CLASS-29-504	c 37	N75-13261 *	US-PATENT-CLASS-29-628	c 33	N77-26385 *
US-PATENT-CLASS-29-196.2	c 26	N75-19408 *	US-PATENT-CLASS-29-517	c 15	N71-17650 *	US-PATENT-CLASS-29-628	c 44	N78-25528 *
US-PATENT-CLASS-29-196.6	c 17	N73-32414 *	US-PATENT-CLASS-29-521	c 26	N83-10170 *	US-PATENT-CLASS-29-629	c 09	N73-28083 *
US-PATENT-CLASS-29-196.6	c 37	N75-13261 *	US-PATENT-CLASS-29-526	c 37	N76-19437 *	US-PATENT-CLASS-29-630A	c 05	N72-25121 *
US-PATENT-CLASS-29-196.6	c 26	N75-19408 *	US-PATENT-CLASS-29-526	c 39	N76-31562 *	US-PATENT-CLASS-29-630A	c 09	N73-28083 *
US-PATENT-CLASS-29-197	c 17	N73-32414 *	US-PATENT-CLASS-29-527.2	c 15	N72-20444 *	US-PATENT-CLASS-29-630E	c 33	N77-26385 *
US-PATENT-CLASS-29-197	c 37	N75-13261 *	US-PATENT-CLASS-29-527.2	c 15	N73-32360 *	US-PATENT-CLASS-29-630	c 09	N73-28083 *
US-PATENT-CLASS-29-197	c 26	N75-19408 *	US-PATENT-CLASS-29-527.2	c 37	N74-11301 *	US-PATENT-CLASS-29-739	c 44	N79-24431 *
US-PATENT-CLASS-29-197	c 44	N76-14595 *	US-PATENT-CLASS-29-527.2	c 24	N75-33181 *	US-PATENT-CLASS-29-764	c 60	N82-24839 *
US-PATENT-CLASS-29-198	c 17	N70-33288 *	US-PATENT-CLASS-29-527.2	c 24	N77-19171 *	US-PATENT-CLASS-29-809	c 44	N79-24431 *
US-PATENT-CLASS-29-198	c 09	N72-25259 *	US-PATENT-CLASS-29-57-4	c 44	N79-24431 *	US-PATENT-CLASS-29-81C	c 75	N78-27913 *
US-PATENT-CLASS-29-203H	c 37	N74-32918 *	US-PATENT-CLASS-29-570	c 26	N72-28761 *	US-PATENT-CLASS-29-81D	c 37	N76-18454 *
US-PATENT-CLASS-29-203MW	c 33	N74-26977 *	US-PATENT-CLASS-29-571	c 35	N75-13213 *	US-PATENT-CLASS-29-825	c 44	N84-28205 *
US-PATENT-CLASS-29-203V	c 15	N73-14468 *	US-PATENT-CLASS-29-571	c 33	N78-27326 *	US-PATENT-CLASS-29-832	c 44	N81-14389 *
US-PATENT-CLASS-29-23.5	c 37	N78-24544 *	US-PATENT-CLASS-29-571	c 33	N81-26360 *	US-PATENT-CLASS-290-1R	c 33	N87-23904 *
US-PATENT-CLASS-29-234	c 15	N70-36901 *	US-PATENT-CLASS-29-572	c 09	N71-23027 *	US-PATENT-CLASS-290-1R	c 44	N85-21769 *
US-PATENT-CLASS-29-244	c 37	N78-24544 *	US-PATENT-CLASS-29-572	c 03	N71-24681 *	US-PATENT-CLASS-290-4R	c 44	N85-21769 *
US-PATENT-CLASS-29-25.14	c 05	N72-25121 *	US-PATENT-CLASS-29-572	c 03	N72-22041 *	US-PATENT-CLASS-290-40	c 03	N71-11057 *
US-PATENT-CLASS-29-25.14	c 35	N82-24471 *	US-PATENT-CLASS-29-572	c 44	N74-14784 *	US-PATENT-CLASS-290-52	c 37	N77-32500 *
US-PATENT-CLASS-29-25.18	c 09	N71-26678 *	US-PATENT-CLASS-29-572	c 44	N76-14600 *	US-PATENT-CLASS-290-52	c 37	N77-32501 *
US-PATENT-CLASS-29-25.18	c 05	N72-25121 *	US-PATENT-CLASS-29-572	c 44	N76-28635 *	US-PATENT-CLASS-290-53	c 44	N80-29834 *
US-PATENT-CLASS-29-25.18	c 20	N75-18310 *	US-PATENT-CLASS-29-572	c 44	N77-10635 *	US-PATENT-CLASS-290-55	c 44	N84-23018 *
US-PATENT-CLASS-29-25.18	c 20	N76-21276 *	US-PATENT-CLASS-29-572	c 44	N78-24609 *	US-PATENT-CLASS-292-DIG.14	c 37	N75-19685 *
US-PATENT-CLASS-29-25.35	c 35	N80-20559 *	US-PATENT-CLASS-29-572	c 44	N78-25527 *	US-PATENT-CLASS-292-DIG.49	c 37	N87-25582 *
US-PATENT-CLASS-29-25.42	c 26	N72-28762 *	US-PATENT-CLASS-29-572	c 44	N78-25528 *	US-PATENT-CLASS-292-108	c 37	N75-19685 *
US-PATENT-CLASS-29-252	c 37	N78-24544 *	US-PATENT-CLASS-29-572	c 44	N78-25529 *	US-PATENT-CLASS-292-110	c 37	N77-32499 *
US-PATENT-CLASS-29-26A	c 37	N75-33395 *	US-PATENT-CLASS-29-572	c 44	N79-11468 *	US-PATENT-CLASS-292-122	c 37	N75-19685 *
US-PATENT-CLASS-29-267	c 60	N82-24839 *	US-PATENT-CLASS-29-572	c 44	N79-11472 *	US-PATENT-CLASS-292-201	c 37	N87-25582 *
US-PATENT-CLASS-29-268	c 37	N74-32918 *	US-PATENT-CLASS-29-572	c 44	N79-17314 *	US-PATENT-CLASS-292-252	c 37	N85-21649 *
US-PATENT-CLASS-29-271	c 15	N70-41371 *	US-PATENT-CLASS-29-572	c 44	N79-18444 *	US-PATENT-CLASS-292-64	c 37	N87-25582 *
US-PATENT-CLASS-29-278R	c 15	N71-29133 *	US-PATENT-CLASS-29-572	c 44	N79-24431 *	US-PATENT-CLASS-294-1R	c 35	N76-16392 *
US-PATENT-CLASS-29-400	c 05	N71-12345 *	US-PATENT-CLASS-29-572	c 44	N79-26475 *	US-PATENT-CLASS-294-106	c 37	N81-14320 *
US-PATENT-CLASS-29-402.16	c 37	N86-32736 *	US-PATENT-CLASS-29-572	c 44	N79-31752 *	US-PATENT-CLASS-294-106	c 37	N88-23979 *
US-PATENT-CLASS-29-412	c 15	N72-20444 *	US-PATENT-CLASS-29-572	c 44	N80-14474 *	US-PATENT-CLASS-294-113	c 37	N80-14398 *
US-PATENT-CLASS-29-419	c 24	N75-28135 *	US-PATENT-CLASS-29-572	c 44	N82-28780 *	US-PATENT-CLASS-294-113	c 37	N88-23979 *
US-PATENT-CLASS-29-420.5	c 26	N74-10521 *	US-PATENT-CLASS-29-572	c 44	N82-29709 *	US-PATENT-CLASS-294-116	c 37	N75-33395 *
US-PATENT-CLASS-29-420.5	c 37	N74-13179 *	US-PATENT-CLASS-29-572	c 44	N83-13579 *	US-PATENT-CLASS-294-116	c 37	N82-32731 *
US-PATENT-CLASS-29-420.5	c 37	N75-26371 *	US-PATENT-CLASS-29-572	c 76	N86-20150 *	US-PATENT-CLASS-294-119.2	c 37	N88-23979 *
US-PATENT-CLASS-29-420	c 24	N75-13032 *	US-PATENT-CLASS-29-572	c 44	N86-32875 *	US-PATENT-CLASS-294-15	c 15	N71-29133 *
US-PATENT-CLASS-29-421E	c 37	N79-13364 *	US-PATENT-CLASS-29-573	c 14	N73-13417 *	US-PATENT-CLASS-294-16	c 37	N88-23979 *
US-PATENT-CLASS-29-421	c 15	N71-29018 *	US-PATENT-CLASS-29-575	c 76	N87-15882 *	US-PATENT-CLASS-294-19R	c 35	N76-16392 *
US-PATENT-CLASS-29-421	c 14	N72-22439 *	US-PATENT-CLASS-29-576-E	c 76	N87-15882 *	US-PATENT-CLASS-294-83	c 15	N71-24897 *
US-PATENT-CLASS-29-421	c 37	N76-14461 *	US-PATENT-CLASS-29-576-J	c 76	N87-15882 *	US-PATENT-CLASS-294-86.33	c 37	N75-33395 *
US-PATENT-CLASS-29-423	c 15	N70-36409 *	US-PATENT-CLASS-29-576-W	c 76	N87-15882 *	US-PATENT-CLASS-294-86R	c 37	N80-14398 *
US-PATENT-CLASS-29-423	c 31	N74-21059 *	US-PATENT-CLASS-29-576B	c 44	N86-32875 *	US-PATENT-CLASS-294-86R	c 37	N81-27519 *
US-PATENT-CLASS-29-423	c 52	N84-28389 *	US-PATENT-CLASS-29-576E	c 76	N85-30922 *	US-PATENT-CLASS-294-86R	c 18	N83-29303 *
US-PATENT-CLASS-29-426	c 15	N72-20444 *	US-PATENT-CLASS-29-576J	c 35	N82-31659 *	US-PATENT-CLASS-294-88	c 37	N89-13785 *
US-PATENT-CLASS-29-428	c 15	N71-17686 *	US-PATENT-CLASS-29-576J	c 76	N85-30922 *	US-PATENT-CLASS-294-93	c 54	N81-26718 *
US-PATENT-CLASS-29-432	c 37	N76-19437 *	US-PATENT-CLASS-29-576S	c 35	N82-31659 *	US-PATENT-CLASS-296-1S	c 85	N82-33288 *
US-PATENT-CLASS-29-433	c 37	N76-19437 *	US-PATENT-CLASS-29-576W	c 76	N85-30922 *	US-PATENT-CLASS-296-1S	c 02	N88-14071 *
US-PATENT-CLASS-29-446	c 37	N83-36482 *	US-PATENT-CLASS-29-577	c 44	N79-26475 *	US-PATENT-CLASS-296-100	c 37	N87-17036 *
US-PATENT-CLASS-29-447	c 37	N77-23482 *	US-PATENT-CLASS-29-578	c 26	N72-17820 *	US-PATENT-CLASS-296-20	c 85	N87-21755 *
US-PATENT-CLASS-29-451	c 52	N84-28389 *	US-PATENT-CLASS-29-578	c 33	N78-27326 *	US-PATENT-CLASS-296-24C	c 85	N82-33288 *
US-PATENT-CLASS-29-452	c 15	N73-30457 *	US-PATENT-CLASS-29-578	c 44	N79-18444 *	US-PATENT-CLASS-296-91	c 85	N82-33288 *
US-PATENT-CLASS-29-458	c 26	N83-10170 *	US-PATENT-CLASS-29-578	c 44	N79-26475 *	US-PATENT-CLASS-297-DIG.5	c 03	N84-33394 *
US-PATENT-CLASS-29-460	c 37	N74-11301 *	US-PATENT-CLASS-29-578	c 33	N81-26360 *	US-PATENT-CLASS-297-216	c 05	N70-35152 *
US-PATENT-CLASS-29-460	c 37	N75-13261 *	US-PATENT-CLASS-29-578	c 76	N85-30922 *	US-PATENT-CLASS-297-216	c 37	N88-23982 *
US-PATENT-CLASS-29-463	c 07	N78-33101 *	US-PATENT-CLASS-29-578	c 76	N87-15882 *	US-PATENT-CLASS-297-232	c 05	N72-11085 *
US-PATENT-CLASS-29-467	c 39	N76-31562 *	US-PATENT-CLASS-29-580	c 09	N73-27150 *	US-PATENT-CLASS-297-385	c 05	N71-12341 *
US-PATENT-CLASS-29-470.1	c 37	N74-21057 *	US-PATENT-CLASS-29-580	c 44	N79-26475 *	US-PATENT-CLASS-297-385	c 05	N75-25915 *
US-PATENT-CLASS-29-470.1	c 37	N75-12326 *	US-PATENT-CLASS-29-580	c 33	N81-26360 *	US-PATENT-CLASS-297-386	c 15	N73-30460 *
US-PATENT-CLASS-29-472.7	c 37	N75-15992 *	US-PATENT-CLASS-29-580	c 35	N87-14671 *	US-PATENT-CLASS-297-388	c 05	N75-25915 *
US-PATENT-CLASS-29-472.9	c 15	N69-39786 *	US-PATENT-CLASS-29-588	c 14	N71-27334 *	US-PATENT-CLASS-297-389	c 05	N75-25915 *
US-PATENT-CLASS-29-472.9	c 26	N71-16037 *	US-PATENT-CLASS-29-588	c 14	N72-31446 *	US-PATENT-CLASS-297-68	c 05	N71-12343 *
US-PATENT-CLASS-29-472.9	c 15	N72-22492 *	US-PATENT-CLASS-29-588	c 44	N74-14784 *	US-PATENT-CLASS-297-68	c 05	N72-11085 *
US-PATENT-CLASS-29-473.1	c 15	N72-22487 *	US-PATENT-CLASS-29-588	c 44	N80-14474 *	US-PATENT-CLASS-299-13	c 43	N81-26509 *
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US-PATENT-CLASS-308-191	c 37	N74-21064 *	US-PATENT-CLASS-310-4A	c 37	N77-19458 *	US-PATENT-CLASS-313-231.4	c 20	N77-10148 *
US-PATENT-CLASS-308-191	c 37	N75-31446 *	US-PATENT-CLASS-310-4R	c 33	N74-27683 *	US-PATENT-CLASS-313-231.4	c 72	N80-33186 *
US-PATENT-CLASS-308-193	c 15	N73-30458 *	US-PATENT-CLASS-310-4R	c 73	N77-18891 *	US-PATENT-CLASS-313-231	c 06	N69-39889 *
US-PATENT-CLASS-308-194	c 37	N79-11404 *	US-PATENT-CLASS-310-40	c 20	N75-24837 *	US-PATENT-CLASS-313-231	c 09	N71-23190 *
US-PATENT-CLASS-308-195	c 15	N72-22439 *	US-PATENT-CLASS-310-42	c 14	N72-22439 *	US-PATENT-CLASS-313-231	c 09	N71-33519 *
US-PATENT-CLASS-308-195	c 37	N75-31446 *	US-PATENT-CLASS-310-46	c 33	N79-20314 *	US-PATENT-CLASS-313-231	c 25	N72-24753 *
US-PATENT-CLASS-308-195	c 37	N77-32500 *	US-PATENT-CLASS-310-4	c 09	N69-21313 *	US-PATENT-CLASS-313-231	c 25	N72-32688 *
US-PATENT-CLASS-308-195	c 37	N77-32501 *	US-PATENT-CLASS-310-4	c 03	N69-39898 *	US-PATENT-CLASS-313-231	c 28	N73-24783 *
US-PATENT-CLASS-308-1	c 31	N71-26537 *	US-PATENT-CLASS-310-4	c 09	N69-39929 *	US-PATENT-CLASS-313-231	c 25	N73-25760 *
US-PATENT-CLASS-308-2A	c 15	N72-26371 *	US-PATENT-CLASS-310-4	c 03	N70-34134 *	US-PATENT-CLASS-313-236	c 09	N71-26182 *
US-PATENT-CLASS-308-2A	c 15	N73-12488 *	US-PATENT-CLASS-310-4	c 03	N71-11055 *	US-PATENT-CLASS-313-237	c 09	N71-26182 *
US-PATENT-CLASS-308-2A	c 37	N84-12492 *	US-PATENT-CLASS-310-4	c 22	N71-23599 *	US-PATENT-CLASS-313-237	c 33	N87-28832 *
US-PATENT-CLASS-308-201	c 37	N75-31446 *	US-PATENT-CLASS-310-4	c 09	N71-24807 *	US-PATENT-CLASS-313-240	c 20	N77-10148 *
US-PATENT-CLASS-308-2	c 15	N71-23812 *	US-PATENT-CLASS-310-4	c 33	N71-27862 *	US-PATENT-CLASS-313-250	c 31	N76-31365 *
US-PATENT-CLASS-308-35	c 15	N73-32359 *	US-PATENT-CLASS-310-4	c 09	N71-28421 *	US-PATENT-CLASS-313-271	c 25	N71-20747 *
US-PATENT-CLASS-308-5R	c 37	N77-28486 *	US-PATENT-CLASS-310-4	c 09	N72-25260 *	US-PATENT-CLASS-313-278	c 33	N87-28832 *
US-PATENT-CLASS-308-5R	c 37	N79-10418 *	US-PATENT-CLASS-310-4	c 09	N72-27228 *	US-PATENT-CLASS-313-306	c 31	N76-31365 *
US-PATENT-CLASS-308-5	c 15	N71-10617 *	US-PATENT-CLASS-310-4	c 20	N75-24837 *	US-PATENT-CLASS-313-309	c 10	N72-27246 *
US-PATENT-CLASS-308-5	c 15	N72-11388 *	US-PATENT-CLASS-310-4	c 36	N75-30524 *	US-PATENT-CLASS-313-309	c 31	N76-31365 *
US-PATENT-CLASS-308-5	c 15	N72-17451 *	US-PATENT-CLASS-310-4	c 44	N76-16612 *	US-PATENT-CLASS-313-311	c 73	N77-18891 *
US-PATENT-CLASS-308-72	c 37	N76-15461 *	US-PATENT-CLASS-310-51	c 15	N71-27169 *	US-PATENT-CLASS-313-32	c 33	N74-12913 *
US-PATENT-CLASS-308-72	c 37	N77-32500 *	US-PATENT-CLASS-310-52	c 20	N75-24837 *	US-PATENT-CLASS-313-32	c 33	N77-21315 *
US-PATENT-CLASS-308-72	c 37	N79-11404 *	US-PATENT-CLASS-310-54	c 09	N71-20446 *	US-PATENT-CLASS-313-336	c 10	N72-27246 *
US-PATENT-CLASS-308-73	c 37	N74-21061 *	US-PATENT-CLASS-310-5	c 03	N70-35408 *	US-PATENT-CLASS-313-338	c 31	N76-31365 *
US-PATENT-CLASS-308-73	c 37	N75-30562 *	US-PATENT-CLASS-310-68B	c 35	N84-28017 *	US-PATENT-CLASS-313-348	c 35	N82-24471 *
US-PATENT-CLASS-308-73	c 37	N76-15461 *	US-PATENT-CLASS-310-68	c 15	N72-25456 *	US-PATENT-CLASS-313-351	c 10	N72-27246 *
US-PATENT-CLASS-308-73	c 37	N77-28486 *	US-PATENT-CLASS-310-77	c 37	N85-30333 *	US-PATENT-CLASS-313-351	c 70	N84-28565 *
US-PATENT-CLASS-308-78	c 24	N79-17916 *	US-PATENT-CLASS-310-8.2	c 35	N76-15432 *	US-PATENT-CLASS-313-352	c 09	N71-22987 *
US-PATENT-CLASS-308-87R	c 24	N79-17916 *	US-PATENT-CLASS-310-8.5	c 14	N71-22993 *	US-PATENT-CLASS-313-355	c 28	N73-27699 *
US-PATENT-CLASS-308-9	c 15	N70-34664 *	US-PATENT-CLASS-310-800	c 76	N83-34796 *	US-PATENT-CLASS-313-356	c 14	N72-29464 *
US-PATENT-CLASS-308-9	c 15	N70-38620 *	US-PATENT-CLASS-310-80	c 15	N72-25456 *	US-PATENT-CLASS-313-359.1	c 72	N87-21660 *
US-PATENT-CLASS-308-9	c 15	N70-39896 *	US-PATENT-CLASS-310-82	c 33	N79-20314 *	US-PATENT-CLASS-313-35	c 34	N79-20336 *
US-PATENT-CLASS-308-9	c 15	N71-20739 *	US-PATENT-CLASS-310-83	c 15	N72-25456 *	US-PATENT-CLASS-313-360	c 20	N77-20162 *
US-PATENT-CLASS-308-9	c 14	N71-26627 *	US-PATENT-CLASS-310-9.1	c 15	N71-21311 *	US-PATENT-CLASS-313-361.1	c 72	N87-21660 *
US-PATENT-CLASS-308-9	c 15	N72-17451 *	US-PATENT-CLASS-310-90.5	c 37	N87-17038 *	US-PATENT-CLASS-313-361	c 20	N77-10148 *
US-PATENT-CLASS-308-9	c 15	N73-32359 *	US-PATENT-CLASS-310-93	c 15	N71-17652 *	US-PATENT-CLASS-313-362.1	c 72	N87-21660 *
US-PATENT-CLASS-308-9	c 37	N76-15461 *	US-PATENT-CLASS-310-93	c 37	N85-30333 *	US-PATENT-CLASS-313-362	c 72	N80-27163 *
US-PATENT-CLASS-308-9	c 37	N77-28486 *	US-PATENT-CLASS-311-37	c 35	N75-29380 *	US-PATENT-CLASS-313-362	c 72	N80-33186 *
US-PATENT-CLASS-308-9	c 37	N79-10418 *	US-PATENT-CLASS-312-196	c 54	N88-24163 *	US-PATENT-CLASS-313-363	c 72	N80-27163 *
US-PATENT-CLASS-31-35	c 31	N85-21404 *	US-PATENT-CLASS-312-1	c 05	N71-23080 *	US-PATENT-CLASS-313-442	c 74	N78-18905 *
US-PATENT-CLASS-310-101	c 15	N71-24696 *	US-PATENT-CLASS-312-1	c 05	N73-20137 *	US-PATENT-CLASS-313-44	c 15	N69-24319 *
US-PATENT-CLASS-310-10	c 03	N69-39890 *	US-PATENT-CLASS-312-1	c 37	N74-20063 *	US-PATENT-CLASS-313-505	c 33	N87-28831 *
US-PATENT-CLASS-310-10	c 09	N71-23443 *	US-PATENT-CLASS-312-208	c 54	N88-24163 *	US-PATENT-CLASS-313-506	c 33	N87-28831 *
US-PATENT-CLASS-310-10	c 09	N71-24904 *	US-PATENT-CLASS-312-209	c 37	N74-18123 *	US-PATENT-CLASS-313-509	c 33	N87-28831 *
US-PATENT-CLASS-310-10	c 09	N72-25255 *	US-PATENT-CLASS-312-257	c 31	N72-22874 *	US-PATENT-CLASS-313-60	c 33	N77-22386 *
US-PATENT-CLASS-310-10	c 20	N75-24837 *	US-PATENT-CLASS-312-296	c 09	N71-18600 *	US-PATENT-CLASS-313-61S	c 73	N74-26767 *
US-PATENT-CLASS-310-111	c 33	N77-26387 *	US-PATENT-CLASS-312-300	c 54	N88-24163 *	US-PATENT-CLASS-313-61S	c 37	N78-13436 *
US-PATENT-CLASS-310-11	c 25	N69-21929 *	US-PATENT-CLASS-312-319	c 37	N79-33467 *	US-PATENT-CLASS-313-63	c 28	N70-41576 *
US-PATENT-CLASS-310-11	c 03	N69-39893 *	US-PATENT-CLASS-312-7.2	c 54	N88-24163 *	US-PATENT-CLASS-313-63	c 09	N71-10618 *
US-PATENT-CLASS-310-11	c 03	N70-36803 *	US-PATENT-CLASS-313-DIG.8	c 28	N73-24783 *	US-PATENT-CLASS-313-63	c 28	N71-26781 *
US-PATENT-CLASS-310-11	c 14	N72-22439 *	US-PATENT-CLASS-313-104	c 14	N73-32317 *	US-PATENT-CLASS-313-63	c 28	N73-24783 *
US-PATENT-CLASS-310-11	c 12	N72-25292 *	US-PATENT-CLASS-313-106	c 24	N83-10117 *	US-PATENT-CLASS-313-63	c 28	N73-27699 *
US-PATENT-CLASS-310-11	c 35	N74-21018 *	US-PATENT-CLASS-313-106	c 70	N84-28565 *	US-PATENT-CLASS-313-63	c 75	N75-13625 *
US-PATENT-CLASS-310-11	c 36	N75-32441 *	US-PATENT-CLASS-313-106	c 31	N86-32587 *	US-PATENT-CLASS-313-7	c 14	N71-18482 *
US-PATENT-CLASS-310-11	c 44	N83-28573 *	US-PATENT-CLASS-313-107	c 24	N83-10117 *	US-PATENT-CLASS-313-7	c 14	N73-32324 *
US-PATENT-CLASS-310-12	c 33	N82-24421 *	US-PATENT-CLASS-313-107	c 70	N84-28565 *	US-PATENT-CLASS-313-93	c 35	N74-26949 *
US-PATENT-CLASS-310-12	c 37	N83-32067 *	US-PATENT-CLASS-313-107	c 31	N86-32587 *	US-PATENT-CLASS-313-93	c 35	N82-24471 *
US-PATENT-CLASS-310-153	c 44	N78-24608 *	US-PATENT-CLASS-313-109.5	c 09	N71-33519 *	US-PATENT-CLASS-313-94	c 33	N76-31409 *
US-PATENT-CLASS-310-154	c 44	N78-24608 *	US-PATENT-CLASS-313-11.5	c 28	N70-39925 *	US-PATENT-CLASS-313-94	c 74	N78-18905 *
US-PATENT-CLASS-310-154	c 35	N84-28017 *	US-PATENT-CLASS-313-110	c 09	N71-12521 *	US-PATENT-CLASS-314-129	c 15	N69-24266 *
US-PATENT-CLASS-310-15	c 09	N72-25255 *	US-PATENT-CLASS-313-131A	c 33	N85-21491 *	US-PATENT-CLASS-315-DIG.2	c 16	N73-32391 *
US-PATENT-CLASS-310-15	c 44	N83-28574 *	US-PATENT-CLASS-313-146	c 33	N77-22386 *	US-PATENT-CLASS-315-101	c 16	N73-32391 *
US-PATENT-CLASS-310-15	c 33	N87-23904 *	US-PATENT-CLASS-313-153	c 33	N74-12913 *	US-PATENT-CLASS-315-108	c 09	N71-33519 *
US-PATENT-CLASS-310-168	c 09	N71-25999 *	US-PATENT-CLASS-313-156	c 25	N70-34661 *	US-PATENT-CLASS-315-108	c 33	N77-21316 *
US-PATENT-CLASS-310-168	c 33	N77-26387 *	US-PATENT-CLASS-313-156	c 72	N80-27163 *	US-PATENT-CLASS-315-108	c 36	N78-17366 *
US-PATENT-CLASS-310-171	c 35	N84-28017 *	US-PATENT-CLASS-313-161	c 25	N73-25760 *	US-PATENT-CLASS-315-10	c 33	N74-18550 *
US-PATENT-CLASS-310-178	c 44	N78-24608 *	US-PATENT-CLASS-313-161	c 09	N73-30181 *	US-PATENT-CLASS-315-10	c 33	N75-26244 *
US-PATENT-CLASS-310-20	c 71	N79-20827 *	US-PATENT-CLASS-313-175	c 33	N77-21316 *	US-PATENT-CLASS-315-110	c 33	N77-21316 *
US-PATENT-CLASS-310-22	c 31	N85-21404 *	US-PATENT-CLASS-313-175	c 33	N77-21316 *	US-PATENT-CLASS-315-111.2	c 75	N78-27913 *
US-PATENT-CLASS-310-231	c 33	N79-20314 *	US-PATENT-CLASS-313-175	c 31	N78-17238 *	US-PATENT-CLASS-315-111.31	c 33	N85-21491 *
US-PATENT-CLASS-310-254	c 09	N71-25999 *	US-PATENT-CLASS-313-176	c 31	N78-17238 *	US-PATENT-CLASS-315-111.3	c 20	N77-10148 *
US-PATENT-CLASS-310-269	c 44	N78-24608 *	US-PATENT-CLASS-313-180	c 33	N77-21316 *	US-PATENT-CLASS-315-111.3	c 20	N77-20162 *
US-PATENT-CLASS-310-26	c 71	N79-20827 *	US-PATENT-CLASS-313-180	c 31	N78-17238 *	US-PATENT-CLASS-315-111.41	c 72	N88-24253 *
US-PATENT-CLASS-310-2	c 03	N72-23048 *	US-PATENT-CLASS-313-182	c 33	N77-22386 *	US-PATENT-CLASS-315-111.6	c 75	N76-14931 *
US-PATENT-CLASS-310-300	c 71	N84-23233 *	US-PATENT-CLASS-313-184	c 33	N77-21316 *	US-PATENT-CLASS-315-111.6	c 20	N77-20162 *
US-PATENT-CLASS-310-306	c 33	N80-18287 *	US-PATENT-CLASS-313-184	c 33	N77-21316 *	US-PATENT-CLASS-315-111.71	c 72	N88-24253 *
US-PATENT-CLASS-310-306	c 44	N83-32175 *	US-PATENT-CLASS-313-186	c 31	N78-17238 *	US-PATENT-CLASS-315-111.81	c 33	N85-21491 *
US-PATENT-CLASS-310-306	c 34	N85-29179 *	US-PATENT-CLASS-313-186	c 25	N72-24753 *	US-PATENT-CLASS-315-111.81	c 33	N87-21234 *
US-PATENT-CLASS-310-306	c 37	N87-23970 *	US-PATENT-CLASS-313-209	c 33	N74-12913 *	US-PATENT-CLASS-315-111.81	c 72	N88-24253 *
US-PATENT-CLASS-310-30	c 44	N80-29834 *	US-PATENT-CLASS-313-212	c 25	N72-24753 *	US-PATENT-CLASS-315-111	c 25	N70-33267 *
US-PATENT-CLASS-310-30	c 33	N87-23904 *	US-PATENT-CLASS-313-217	c 28	N73-27699 *	US-PATENT-CLASS-315-111	c 25	N70-41628 *
US-PATENT-CLASS-310-311	c 35	N80-20559 *	US-PATENT-CLASS-313-217	c 33	N74-12913 *	US-PATENT-CLASS-315-111	c 25	N71-15652 *
US-PATENT-CLASS-310-317	c 35	N84-22932 *	US-PATENT-CLASS-313-218	c 28	N73-27699 *	US-PATENT-CLASS-315-111	c 24	N71-16213 *
US-PATENT-CLASS-310-319	c 33	N80-23559 *	US-PATENT-CLASS-313-224	c 25	N72-24753 *	US-PATENT-CLASS-315-111	c 25	N71-21693 *
US-PATENT-CLASS-310-322	c 71	N79-20827 *	US-PATENT-CLASS-313-224	c 33	N74-12913 *	US-PATENT-CLASS-315-111	c 28	N71-26781 *
US-PATENT-CLASS-310-324	c 33	N86-20671 *	US-PATENT-CLASS-313-224	c 33	N77-21315 *	US-PATENT-CLASS-315-111	c 25	N71-29184 *
US-PATENT-CLASS-310-326	c 38	N79-14398 *	US-PATENT-CLASS-313-224	c 31	N78-17238 *	US-PATENT-CLASS-315-111	c 09	N71-33519 *

US-PATENT-CLASS-315-111	c 25	N72-24753 *	US-PATENT-CLASS-315-5	c 33	N83-31952 *	US-PATENT-CLASS-317-9	c 09	N71-22796 *
US-PATENT-CLASS-315-111	c 25	N72-32688 *	US-PATENT-CLASS-317-DIG.3	c 10	N71-26334 *	US-PATENT-CLASS-317-9	c 09	N71-27001 *
US-PATENT-CLASS-315-111	c 14	N73-30391 *	US-PATENT-CLASS-317-DIG.6	c 10	N73-26228 *	US-PATENT-CLASS-318-107	c 44	N87-21410 *
US-PATENT-CLASS-315-111	c 75	N75-13625 *	US-PATENT-CLASS-317-100	c 10	N71-28783 *	US-PATENT-CLASS-318-116	c 71	N79-20827 *
US-PATENT-CLASS-315-111	c 33	N75-29318 *	US-PATENT-CLASS-317-100	c 10	N73-25243 *	US-PATENT-CLASS-318-116	c 71	N84-23233 *
US-PATENT-CLASS-315-111	c 37	N75-29426 *	US-PATENT-CLASS-317-101A	c 09	N72-33205 *	US-PATENT-CLASS-318-116	c 33	N87-28833 *
US-PATENT-CLASS-315-111	c 33	N74-21850 *	US-PATENT-CLASS-317-101A	c 23	N73-13660 *	US-PATENT-CLASS-318-135	c 33	N82-24421 *
US-PATENT-CLASS-315-12	c 33	N74-21850 *	US-PATENT-CLASS-317-101DH	c 15	N72-22486 *	US-PATENT-CLASS-318-137	c 33	N75-19524 *
US-PATENT-CLASS-315-135	c 09	N72-25250 *	US-PATENT-CLASS-317-101DH	c 10	N73-25243 *	US-PATENT-CLASS-318-138	c 09	N71-10677 *
US-PATENT-CLASS-315-145	c 33	N80-14330 *	US-PATENT-CLASS-317-101	c 09	N71-26133 *	US-PATENT-CLASS-318-138	c 14	N71-17585 *
US-PATENT-CLASS-315-151	c 14	N72-27411 *	US-PATENT-CLASS-317-117	c 15	N72-22486 *	US-PATENT-CLASS-318-138	c 10	N71-18772 *
US-PATENT-CLASS-315-153	c 14	N73-16483 *	US-PATENT-CLASS-317-120	c 15	N72-22486 *	US-PATENT-CLASS-318-138	c 09	N71-25999 *
US-PATENT-CLASS-315-153	c 74	N79-12890 *	US-PATENT-CLASS-317-122	c 15	N71-18701 *	US-PATENT-CLASS-318-138	c 33	N77-26386 *
US-PATENT-CLASS-315-156	c 14	N72-27411 *	US-PATENT-CLASS-317-123	c 09	N71-24892 *	US-PATENT-CLASS-318-138	c 33	N81-20352 *
US-PATENT-CLASS-315-158	c 14	N72-27411 *	US-PATENT-CLASS-317-140	c 09	N70-34502 *	US-PATENT-CLASS-318-138	c 33	N87-21233 *
US-PATENT-CLASS-315-160	c 09	N71-12540 *	US-PATENT-CLASS-317-148.5	c 10	N71-23271 *	US-PATENT-CLASS-318-15	c 37	N80-32716 *
US-PATENT-CLASS-315-169R	c 23	N73-13660 *	US-PATENT-CLASS-317-148.5	c 09	N71-24892 *	US-PATENT-CLASS-318-161	c 44	N87-21410 *
US-PATENT-CLASS-315-169R	c 36	N75-19652 *	US-PATENT-CLASS-317-153	c 10	N71-26334 *	US-PATENT-CLASS-318-167	c 33	N75-19524 *
US-PATENT-CLASS-315-169TV	c 23	N73-13660 *	US-PATENT-CLASS-317-155.5	c 09	N71-29008 *	US-PATENT-CLASS-318-176	c 33	N75-19524 *
US-PATENT-CLASS-315-172	c 33	N88-24862 *	US-PATENT-CLASS-317-157.5	c 15	N69-21472 *	US-PATENT-CLASS-318-183	c 33	N75-19524 *
US-PATENT-CLASS-315-173	c 33	N88-24862 *	US-PATENT-CLASS-317-158	c 15	N73-28516 *	US-PATENT-CLASS-318-200.105	c 08	N71-27057 *
US-PATENT-CLASS-315-176	c 33	N77-28385 *	US-PATENT-CLASS-317-158	c 26	N73-28710 *	US-PATENT-CLASS-318-200	c 33	N78-10376 *
US-PATENT-CLASS-315-18	c 32	N74-20813 *	US-PATENT-CLASS-317-158	c 15	N73-32361 *	US-PATENT-CLASS-318-227	c 07	N71-33613 *
US-PATENT-CLASS-315-18	c 33	N75-19517 *	US-PATENT-CLASS-317-16	c 09	N69-39897 *	US-PATENT-CLASS-318-227	c 33	N75-15874 *
US-PATENT-CLASS-315-200-R	c 33	N88-23942 *	US-PATENT-CLASS-317-16	c 33	N74-17929 *	US-PATENT-CLASS-318-227	c 33	N77-26386 *
US-PATENT-CLASS-315-208	c 33	N83-34189 *	US-PATENT-CLASS-317-2D	c 33	N77-10429 *	US-PATENT-CLASS-318-227	c 33	N78-10376 *
US-PATENT-CLASS-315-209CD	c 37	N79-11405 *	US-PATENT-CLASS-317-2D	c 10	N71-26531 *	US-PATENT-CLASS-318-22	c 15	N71-17694 *
US-PATENT-CLASS-315-209SC	c 37	N79-11405 *	US-PATENT-CLASS-317-230	c 09	N71-27232 *	US-PATENT-CLASS-318-230	c 07	N71-33613 *
US-PATENT-CLASS-315-211	c 33	N74-20859 *	US-PATENT-CLASS-317-230	c 26	N72-28761 *	US-PATENT-CLASS-318-230	c 10	N73-32145 *
US-PATENT-CLASS-315-22R	c 10	N72-31273 *	US-PATENT-CLASS-317-231	c 09	N71-27232 *	US-PATENT-CLASS-318-230	c 33	N75-15874 *
US-PATENT-CLASS-315-224	c 33	N83-34189 *	US-PATENT-CLASS-317-234A	c 15	N73-14469 *	US-PATENT-CLASS-318-230	c 33	N78-10376 *
US-PATENT-CLASS-315-225	c 33	N83-34189 *	US-PATENT-CLASS-317-234D	c 14	N72-31446 *	US-PATENT-CLASS-318-231	c 10	N73-32145 *
US-PATENT-CLASS-315-227-R	c 33	N88-23942 *	US-PATENT-CLASS-317-234E	c 33	N74-12951 *	US-PATENT-CLASS-318-231	c 33	N75-15874 *
US-PATENT-CLASS-315-228	c 33	N74-20859 *	US-PATENT-CLASS-317-234F	c 33	N74-12951 *	US-PATENT-CLASS-318-254	c 09	N71-25999 *
US-PATENT-CLASS-315-22	c 10	N72-20225 *	US-PATENT-CLASS-317-234G	c 14	N72-31446 *	US-PATENT-CLASS-318-254	c 09	N73-32107 *
US-PATENT-CLASS-315-22	c 32	N74-20813 *	US-PATENT-CLASS-317-234G	c 15	N73-14469 *	US-PATENT-CLASS-318-254	c 33	N77-26386 *
US-PATENT-CLASS-315-22	c 33	N78-17293 *	US-PATENT-CLASS-317-234G	c 09	N73-15509 *	US-PATENT-CLASS-318-254	c 33	N81-20352 *
US-PATENT-CLASS-315-237	c 33	N83-34189 *	US-PATENT-CLASS-317-234J	c 26	N72-25679 *	US-PATENT-CLASS-318-254	c 33	N82-26569 *
US-PATENT-CLASS-315-241-R	c 33	N88-23942 *	US-PATENT-CLASS-317-234L	c 09	N72-27150 *	US-PATENT-CLASS-318-254	c 33	N87-21233 *
US-PATENT-CLASS-315-241R	c 37	N79-11405 *	US-PATENT-CLASS-317-234M	c 09	N73-27150 *	US-PATENT-CLASS-318-257	c 10	N71-18724 *
US-PATENT-CLASS-315-241R	c 33	N83-34189 *	US-PATENT-CLASS-317-234N	c 33	N74-12951 *	US-PATENT-CLASS-318-258	c 09	N71-26092 *
US-PATENT-CLASS-315-241	c 09	N71-13518 *	US-PATENT-CLASS-317-234N	c 09	N73-27150 *	US-PATENT-CLASS-318-260	c 09	N70-38712 *
US-PATENT-CLASS-315-248	c 09	N73-30181 *	US-PATENT-CLASS-317-234N	c 33	N74-12951 *	US-PATENT-CLASS-318-265	c 15	N71-24895 *
US-PATENT-CLASS-315-24	c 08	N71-20571 *	US-PATENT-CLASS-317-234R	c 09	N73-27150 *	US-PATENT-CLASS-318-267	c 37	N77-27400 *
US-PATENT-CLASS-315-254	c 33	N88-23942 *	US-PATENT-CLASS-317-234R	c 33	N74-12951 *	US-PATENT-CLASS-318-308	c 11	N72-20244 *
US-PATENT-CLASS-315-255	c 33	N88-23942 *	US-PATENT-CLASS-317-234V	c 26	N72-21071 *	US-PATENT-CLASS-318-314	c 10	N71-20448 *
US-PATENT-CLASS-315-258	c 16	N73-32391 *	US-PATENT-CLASS-317-234V	c 09	N73-15235 *	US-PATENT-CLASS-318-314	c 09	N75-24758 *
US-PATENT-CLASS-315-25	c 10	N72-20225 *	US-PATENT-CLASS-317-234	c 14	N69-23191 *	US-PATENT-CLASS-318-317	c 09	N71-28886 *
US-PATENT-CLASS-315-260	c 33	N80-14330 *	US-PATENT-CLASS-317-234	c 09	N69-27422 *	US-PATENT-CLASS-318-318	c 09	N71-24805 *
US-PATENT-CLASS-315-26	c 09	N71-23189 *	US-PATENT-CLASS-317-234	c 26	N71-18064 *	US-PATENT-CLASS-318-318	c 09	N75-24758 *
US-PATENT-CLASS-315-276	c 33	N88-23942 *	US-PATENT-CLASS-317-235AG	c 09	N73-15235 *	US-PATENT-CLASS-318-318	c 15	N71-28952 *
US-PATENT-CLASS-315-277	c 33	N88-23942 *	US-PATENT-CLASS-317-235AJ	c 26	N72-25679 *	US-PATENT-CLASS-318-327	c 11	N72-20244 *
US-PATENT-CLASS-315-297	c 14	N72-27411 *	US-PATENT-CLASS-317-235AJ	c 09	N72-33205 *	US-PATENT-CLASS-318-328	c 09	N73-32107 *
US-PATENT-CLASS-315-3.5	c 09	N73-13208 *	US-PATENT-CLASS-317-235AM	c 09	N73-19235 *	US-PATENT-CLASS-318-331	c 09	N71-28886 *
US-PATENT-CLASS-315-3.5	c 33	N79-10339 *	US-PATENT-CLASS-317-235A	c 26	N72-25679 *	US-PATENT-CLASS-318-341	c 10	N73-32145 *
US-PATENT-CLASS-315-3.5	c 33	N82-26568 *	US-PATENT-CLASS-317-235A	c 09	N72-33205 *	US-PATENT-CLASS-318-341	c 09	N75-24758 *
US-PATENT-CLASS-315-3.5	c 33	N84-16452 *	US-PATENT-CLASS-317-235H	c 35	N75-13213 *	US-PATENT-CLASS-318-345	c 09	N71-28886 *
US-PATENT-CLASS-315-3.5	c 37	N85-33489 *	US-PATENT-CLASS-317-235K	c 09	N73-15235 *	US-PATENT-CLASS-318-376	c 10	N71-16030 *
US-PATENT-CLASS-315-3.5	c 33	N86-21742 *	US-PATENT-CLASS-317-235M	c 14	N72-31446 *	US-PATENT-CLASS-318-376	c 11	N72-20244 *
US-PATENT-CLASS-315-3.6	c 33	N79-10339 *	US-PATENT-CLASS-317-235N	c 09	N73-19235 *	US-PATENT-CLASS-318-382	c 15	N71-24695 *
US-PATENT-CLASS-315-3.6	c 33	N82-24415 *	US-PATENT-CLASS-317-235N	c 35	N74-15090 *	US-PATENT-CLASS-318-438	c 33	N84-22885 *
US-PATENT-CLASS-315-3.6	c 33	N82-26568 *	US-PATENT-CLASS-317-235R	c 26	N72-21071 *	US-PATENT-CLASS-318-439	c 33	N81-20352 *
US-PATENT-CLASS-315-3.6	c 33	N84-16452 *	US-PATENT-CLASS-317-235R	c 26	N72-25679 *	US-PATENT-CLASS-318-439	c 33	N87-21233 *
US-PATENT-CLASS-315-3.6	c 33	N84-27974 *	US-PATENT-CLASS-317-235R	c 14	N72-31446 *	US-PATENT-CLASS-318-468	c 37	N77-27400 *
US-PATENT-CLASS-315-3.6	c 33	N86-21742 *	US-PATENT-CLASS-317-235R	c 09	N73-19235 *	US-PATENT-CLASS-318-46	c 44	N85-21769 *
US-PATENT-CLASS-315-30R	c 10	N72-31273 *	US-PATENT-CLASS-317-235R	c 09	N73-32112 *	US-PATENT-CLASS-318-470	c 37	N77-27400 *
US-PATENT-CLASS-315-307	c 14	N72-27411 *	US-PATENT-CLASS-317-235T	c 09	N73-19235 *	US-PATENT-CLASS-318-489	c 02	N73-19004 *
US-PATENT-CLASS-315-30	c 33	N75-27250 *	US-PATENT-CLASS-317-235UA	c 09	N73-19235 *	US-PATENT-CLASS-318-48	c 37	N86-27629 *
US-PATENT-CLASS-315-310	c 14	N72-27411 *	US-PATENT-CLASS-317-235WW	c 09	N73-32112 *	US-PATENT-CLASS-318-504	c 09	N71-28886 *
US-PATENT-CLASS-315-311	c 14	N72-27411 *	US-PATENT-CLASS-317-235	c 09	N69-24318 *	US-PATENT-CLASS-318-561	c 33	N82-18493 *
US-PATENT-CLASS-315-324	c 09	N73-30181 *	US-PATENT-CLASS-317-235	c 09	N72-33205 *	US-PATENT-CLASS-318-564	c 60	N82-29013 *
US-PATENT-CLASS-315-326	c 25	N72-24753 *	US-PATENT-CLASS-317-238	c 09	N71-27232 *	US-PATENT-CLASS-318-571	c 10	N71-27136 *
US-PATENT-CLASS-315-334	c 33	N80-14330 *	US-PATENT-CLASS-317-245	c 33	N79-21265 *	US-PATENT-CLASS-318-573	c 35	N79-14348 *
US-PATENT-CLASS-315-344	c 33	N77-21315 *	US-PATENT-CLASS-317-246	c 14	N69-21541 *	US-PATENT-CLASS-318-576	c 09	N72-21246 *
US-PATENT-CLASS-315-349	c 09	N72-25250 *	US-PATENT-CLASS-317-246	c 33	N76-21390 *	US-PATENT-CLASS-318-577	c 37	N86-21850 *
US-PATENT-CLASS-315-356	c 16	N73-32391 *	US-PATENT-CLASS-317-246	c 35	N76-22509 *	US-PATENT-CLASS-318-580	c 08	N74-10942 *
US-PATENT-CLASS-315-358	c 25	N72-24753 *	US-PATENT-CLASS-317-247	c 14	N72-24477 *	US-PATENT-CLASS-318-580	c 04	N82-23231 *
US-PATENT-CLASS-315-367	c 33	N75-26244 *	US-PATENT-CLASS-317-258	c 09	N71-13522 *	US-PATENT-CLASS-318-584	c 08	N81-24106 *
US-PATENT-CLASS-315-369	c 33	N75-26244 *	US-PATENT-CLASS-317-258	c 33	N76-15373 *	US-PATENT-CLASS-318-584	c 08	N86-27288 *
US-PATENT-CLASS-315-36	c 10	N72-27246 *	US-PATENT-CLASS-317-261	c 26	N72-28761 *	US-PATENT-CLASS-318-585	c 08	N79-23097 *
US-PATENT-CLASS-315-387	c 33	N75-26244 *	US-PATENT-CLASS-317-261	c 33	N76-15373 *	US-PATENT-CLASS-318-587	c 35	N84-33769 *
US-PATENT-CLASS-315-39.3	c 33	N84-16452 *	US-PATENT-CLASS-317-31	c 09	N71-12526 *	US-PATENT-CLASS-318-594	c 35	N79-14348 *
US-PATENT-CLASS-315-39.3	c 33	N84-27974 *	US-PATENT-CLASS-317-31	c 10	N71-23543 *	US-PATENT-CLASS-318-599	c 10	N71-24861 *
US-PATENT-CLASS-315-39.3	c 33	N86-21742 *	US-PATENT-CLASS-317-31	c 33	N74-17929 *	US-PATENT-CLASS-318-602	c 33	N74-29556 *
US-PATENT-CLASS-315-3	c 33	N83-31952 *	US-PATENT-CLASS-317-31	c 33	N77-14333 *	US-PATENT-CLASS-318-603	c 33	N74-29556 *
US-PATENT-CLASS-315-4	c 33	N83-31952 *	US-PATENT-CLASS-317-33SC	c 33	N74-14956 *	US-PATENT-CLASS-318-605	c 31	N86-29055 *
US-PATENT-CLASS-315-5.35	c 33	N74-10195 *	US-PATENT-CLASS-317-33	c 10	N71-26531 *	US-PATENT-CLASS-318-608	c 33	N75-13139 *
US-PATENT-CLASS-315-5.35	c 33	N83-31952 *	US-PATENT-CLASS-317-33	c 09	N71-27001 *	US-PATENT-CLASS-318-611	c 37	N85-30333 *
US-PATENT-CLASS-315-5.38	c 09	N73-13208 *	US-PATENT-CLASS-317-33	c 10	N71-27366 *	US-PATENT-CLASS-318-616	c 08	N79-23097 *
US-PATENT-CLASS-315-5.38	c 33	N74-10195 *	US-PATENT-CLASS-317-33	c 09	N71-29008 *	US-PATENT-CLASS-318-620	c 33	N82-18493 *
US-PATENT-CLASS-315-5.38	c 33	N82-24415 *	US-PATENT-CLASS-317-43	c 33	N74-14956 *	US-PATENT-CLASS-318-621	c 33	N82-18493 *
US-PATENT-CLASS-315-5.38	c 24	N83-10117 *	US-PATENT-CLASS-317-46	c 33	N74-14956 *	US-PATENT-CLASS-318-622	c 33	N82-18493 *
US-PATENT-CLASS-315-5.38	c 33	N83-31952 *	US-PATENT-CLASS-317-47	c 33	N74-14956 *	US-PATENT-CLASS-318-628	c 08	N74-10942 *
US-PATENT-CLASS-315-5.38	c 70	N84-28565 *	US-PATENT-CLASS-317-48	c 33	N74-14956 *	US-PATENT-CLASS-318-632	c 37	N86-27629 *
US-PATENT-CLASS-315-5.38	c 37	N85-33489 *	US-PATENT-CLASS-317-54	c 09	N71-29008 *	US-PATENT-CLASS-318-636	c 31	N86-29055 *
US-PATENT-CLASS-315-5.38	c 31	N86-32587 *	US-PATENT-CLASS-317-60	c 09	N71-29008 *	US-PATENT-CLASS-318-640	c 33	N75-13139 *



US-PATENT-CLASS-318-640	c 54	N75-27758 *	US-PATENT-CLASS-321-2	c 09	N72-25254 *	US-PATENT-CLASS-324-113	c 33	N79-11315 *
US-PATENT-CLASS-318-640	c 35	N79-14348 *	US-PATENT-CLASS-321-2	c 33	N74-11049 *	US-PATENT-CLASS-324-113	c 33	N79-14305 *
US-PATENT-CLASS-318-640	c 37	N81-27519 *	US-PATENT-CLASS-321-2	c 33	N77-10428 *	US-PATENT-CLASS-324-115	c 14	N71-26244 *
US-PATENT-CLASS-318-640	c 08	N86-27288 *	US-PATENT-CLASS-321-45C	c 10	N73-26228 *	US-PATENT-CLASS-324-115	c 10	N72-20222 *
US-PATENT-CLASS-318-649	c 33	N75-13139 *	US-PATENT-CLASS-321-45ER	c 09	N72-25252 *	US-PATENT-CLASS-324-117	c 14	N71-23037 *
US-PATENT-CLASS-318-653	c 10	N71-27136 *	US-PATENT-CLASS-321-45R	c 09	N72-25252 *	US-PATENT-CLASS-324-118	c 33	N74-17930 *
US-PATENT-CLASS-318-661	c 31	N86-29055 *	US-PATENT-CLASS-321-45R	c 09	N72-25254 *	US-PATENT-CLASS-324-119	c 09	N72-11225 *
US-PATENT-CLASS-318-663	c 37	N81-33483 *	US-PATENT-CLASS-321-45R	c 33	N74-22864 *	US-PATENT-CLASS-324-120	c 14	N71-19431 *
US-PATENT-CLASS-318-663	c 37	N86-27629 *	US-PATENT-CLASS-321-45S	c 33	N74-11049 *	US-PATENT-CLASS-324-120	c 09	N71-23021 *
US-PATENT-CLASS-318-664	c 33	N74-29556 *	US-PATENT-CLASS-321-45	c 09	N71-24800 *	US-PATENT-CLASS-324-123C	c 33	N79-22373 *
US-PATENT-CLASS-318-675	c 33	N75-13139 *	US-PATENT-CLASS-321-45	c 09	N72-22203 *	US-PATENT-CLASS-324-123R	c 09	N72-11225 *
US-PATENT-CLASS-318-675	c 37	N77-27400 *	US-PATENT-CLASS-321-47	c 09	N71-33109 *	US-PATENT-CLASS-324-127	c 33	N79-18193 *
US-PATENT-CLASS-318-685	c 33	N83-35227 *	US-PATENT-CLASS-321-47	c 09	N72-25253 *	US-PATENT-CLASS-324-130	c 35	N78-28411 *
US-PATENT-CLASS-318-729	c 33	N83-34190 *	US-PATENT-CLASS-321-48	c 12	N71-20896 *	US-PATENT-CLASS-324-132	c 09	N71-13530 *
US-PATENT-CLASS-318-729	c 33	N84-14424 *	US-PATENT-CLASS-321-5	c 08	N71-18752 *	US-PATENT-CLASS-324-132	c 10	N72-20222 *
US-PATENT-CLASS-318-729	c 33	N84-22885 *	US-PATENT-CLASS-321-60	c 14	N71-23174 *	US-PATENT-CLASS-324-133	c 10	N71-27338 *
US-PATENT-CLASS-318-729	c 33	N84-22886 *	US-PATENT-CLASS-321-61	c 09	N71-27364 *	US-PATENT-CLASS-324-133	c 33	N79-10337 *
US-PATENT-CLASS-318-729	c 33	N84-27975 *	US-PATENT-CLASS-321-64	c 09	N71-27364 *	US-PATENT-CLASS-324-133	c 33	N79-11315 *
US-PATENT-CLASS-318-729	c 33	N84-33661 *	US-PATENT-CLASS-321-69	c 10	N71-26414 *	US-PATENT-CLASS-324-133	c 33	N79-14305 *
US-PATENT-CLASS-318-729	c 44	N85-21769 *	US-PATENT-CLASS-321-6R	c 35	N74-18090 *	US-PATENT-CLASS-324-133	c 33	N79-18193 *
US-PATENT-CLASS-318-729	c 33	N85-22877 *	US-PATENT-CLASS-321-9	c 10	N71-25139 *	US-PATENT-CLASS-324-158-D	c 33	N87-22894 *
US-PATENT-CLASS-318-798	c 33	N83-34190 *	US-PATENT-CLASS-322-2R	c 07	N83-20944 *	US-PATENT-CLASS-324-158-R	c 33	N87-22894 *
US-PATENT-CLASS-318-798	c 33	N83-35227 *	US-PATENT-CLASS-322-25	c 33	N84-33660 *	US-PATENT-CLASS-324-158R	c 15	N72-25457 *
US-PATENT-CLASS-318-798	c 33	N84-14424 *	US-PATENT-CLASS-322-29	c 33	N83-28319 *	US-PATENT-CLASS-324-158D	c 76	N76-20994 *
US-PATENT-CLASS-318-798	c 33	N84-22885 *	US-PATENT-CLASS-322-29	c 33	N84-33660 *	US-PATENT-CLASS-324-158D	c 44	N80-18551 *
US-PATENT-CLASS-318-799	c 33	N81-27395 *	US-PATENT-CLASS-322-2	c 03	N72-23048 *	US-PATENT-CLASS-324-158D	c 76	N84-35112 * #
US-PATENT-CLASS-318-799	c 33	N84-16455 *	US-PATENT-CLASS-322-32	c 09	N71-27364 *	US-PATENT-CLASS-324-158D	c 76	N85-30923 *
US-PATENT-CLASS-318-800	c 33	N83-31953 *	US-PATENT-CLASS-322-35	c 33	N83-28319 *	US-PATENT-CLASS-324-158R	c 76	N76-20994 *
US-PATENT-CLASS-318-802	c 33	N84-33661 *	US-PATENT-CLASS-322-47	c 33	N83-28319 *	US-PATENT-CLASS-324-158R	c 33	N85-30187 *
US-PATENT-CLASS-318-803	c 33	N83-10345 *	US-PATENT-CLASS-322-95	c 33	N83-28319 *	US-PATENT-CLASS-324-158T	c 15	N72-25457 *
US-PATENT-CLASS-318-803	c 33	N83-31953 *	US-PATENT-CLASS-322-95	c 33	N84-33660 *	US-PATENT-CLASS-324-158T	c 35	N75-12270 *
US-PATENT-CLASS-318-805	c 33	N82-26569 *	US-PATENT-CLASS-322-96	c 33	N77-26387 *	US-PATENT-CLASS-324-158T	c 76	N76-20994 *
US-PATENT-CLASS-318-806	c 33	N83-34190 *	US-PATENT-CLASS-323-DIG.1	c 09	N72-21243 *	US-PATENT-CLASS-324-158T	c 33	N80-14332 *
US-PATENT-CLASS-318-806	c 33	N83-35227 *	US-PATENT-CLASS-323-DIG.1	c 09	N72-25249 *	US-PATENT-CLASS-324-158T	c 76	N84-35112 * #
US-PATENT-CLASS-318-806	c 33	N84-14424 *	US-PATENT-CLASS-323-DIG.1	c 33	N74-11049 *	US-PATENT-CLASS-324-158	c 09	N69-21926 * #
US-PATENT-CLASS-318-809	c 33	N83-31953 *	US-PATENT-CLASS-323-DIG.1	c 33	N77-10428 *	US-PATENT-CLASS-324-163	c 35	N77-30436 *
US-PATENT-CLASS-318-809	c 33	N84-27975 *	US-PATENT-CLASS-323-106	c 33	N72-22885 *	US-PATENT-CLASS-324-165	c 35	N77-30436 *
US-PATENT-CLASS-318-810	c 33	N81-27395 *	US-PATENT-CLASS-323-122	c 33	N74-22885 *	US-PATENT-CLASS-324-173	c 35	N78-32396 *
US-PATENT-CLASS-318-810	c 33	N84-22885 *	US-PATENT-CLASS-323-128	c 33	N74-22885 *	US-PATENT-CLASS-324-174	c 35	N77-30436 *
US-PATENT-CLASS-318-812	c 33	N82-26569 *	US-PATENT-CLASS-323-15	c 20	N79-20179 *	US-PATENT-CLASS-324-181	c 09	N71-24717 *
US-PATENT-CLASS-318-812	c 33	N84-22886 *	US-PATENT-CLASS-323-15	c 44	N80-14472 *	US-PATENT-CLASS-324-186	c 09	N72-25257 *
US-PATENT-CLASS-318-812	c 33	N85-22877 *	US-PATENT-CLASS-323-17	c 09	N72-25249 *	US-PATENT-CLASS-324-186	c 52	N74-12778 *
US-PATENT-CLASS-318-830	c 33	N82-26569 *	US-PATENT-CLASS-323-17	c 33	N77-10428 *	US-PATENT-CLASS-324-20R	c 09	N72-23172 *
US-PATENT-CLASS-318-8	c 37	N86-27629 *	US-PATENT-CLASS-323-18	c 33	N78-17295 *	US-PATENT-CLASS-324-20R	c 44	N79-12541 *
US-PATENT-CLASS-32-28	c 05	N73-27062 *	US-PATENT-CLASS-323-19	c 08	N72-31226 *	US-PATENT-CLASS-324-207	c 35	N78-32396 *
US-PATENT-CLASS-32-58	c 05	N73-27062 *	US-PATENT-CLASS-323-19	c 33	N78-17296 *	US-PATENT-CLASS-324-226	c 35	N86-32698 *
US-PATENT-CLASS-320-13	c 03	N71-29129 *	US-PATENT-CLASS-323-19	c 44	N80-14472 *	US-PATENT-CLASS-324-22	c 44	N79-12541 *
US-PATENT-CLASS-320-13	c 44	N78-25531 *	US-PATENT-CLASS-323-20	c 14	N71-27407 *	US-PATENT-CLASS-324-238	c 35	N86-32698 *
US-PATENT-CLASS-320-15	c 44	N78-14625 *	US-PATENT-CLASS-323-20	c 20	N79-20179 *	US-PATENT-CLASS-324-240	c 35	N86-32698 *
US-PATENT-CLASS-320-15	c 44	N78-25531 *	US-PATENT-CLASS-323-22T	c 09	N72-21243 *	US-PATENT-CLASS-324-249	c 35	N84-12444 *
US-PATENT-CLASS-320-17	c 03	N71-24605 *	US-PATENT-CLASS-323-22T	c 09	N72-25249 *	US-PATENT-CLASS-324-250	c 35	N84-22928 *
US-PATENT-CLASS-320-18	c 44	N78-14625 *	US-PATENT-CLASS-323-22T	c 33	N77-10428 *	US-PATENT-CLASS-324-262	c 35	N86-32698 *
US-PATENT-CLASS-320-21	c 44	N76-18643 *	US-PATENT-CLASS-323-22T	c 33	N79-23345 *	US-PATENT-CLASS-324-262	c 35	N72-25020 *
US-PATENT-CLASS-320-22	c 44	N76-18643 *	US-PATENT-CLASS-323-22	c 09	N71-21449 *	US-PATENT-CLASS-324-29.5	c 03	N73-30388 *
US-PATENT-CLASS-320-23	c 03	N71-19438 *	US-PATENT-CLASS-323-22	c 09	N71-23316 *	US-PATENT-CLASS-324-29.5	c 44	N74-27519 *
US-PATENT-CLASS-320-2	c 44	N77-14581 *	US-PATENT-CLASS-323-23	c 33	N77-10428 *	US-PATENT-CLASS-324-30B	c 33	N76-19339 *
US-PATENT-CLASS-320-32	c 44	N78-25531 *	US-PATENT-CLASS-323-243	c 33	N84-16455 *	US-PATENT-CLASS-324-30R	c 14	N73-20478 *
US-PATENT-CLASS-320-39	c 03	N71-24719 *	US-PATENT-CLASS-323-246	c 33	N84-16455 *	US-PATENT-CLASS-324-32	c 14	N71-16014 *
US-PATENT-CLASS-320-39	c 44	N78-25531 *	US-PATENT-CLASS-323-269	c 33	N83-27126 *	US-PATENT-CLASS-324-32	c 33	N75-18477 *
US-PATENT-CLASS-320-40	c 44	N78-14625 *	US-PATENT-CLASS-323-300	c 33	N84-27975 *	US-PATENT-CLASS-324-32	c 33	N75-19522 *
US-PATENT-CLASS-320-48	c 03	N72-25020 *	US-PATENT-CLASS-323-303	c 33	N83-27126 *	US-PATENT-CLASS-324-32	c 35	N78-28411 *
US-PATENT-CLASS-320-53	c 33	N78-17296 *	US-PATENT-CLASS-323-350	c 33	N83-27126 *	US-PATENT-CLASS-324-33	c 25	N69-39884 * #
US-PATENT-CLASS-320-6	c 44	N78-14625 *	US-PATENT-CLASS-323-38	c 09	N72-21243 *	US-PATENT-CLASS-324-33	c 14	N70-35666 *
US-PATENT-CLASS-320-9	c 44	N78-25531 *	US-PATENT-CLASS-323-44F	c 33	N79-17133 *	US-PATENT-CLASS-324-33	c 24	N71-20518 *
US-PATENT-CLASS-321-1.5	c 09	N73-32109 *	US-PATENT-CLASS-323-48	c 09	N71-27053 *	US-PATENT-CLASS-324-33	c 14	N71-21090 *
US-PATENT-CLASS-321-10	c 09	N72-17154 *	US-PATENT-CLASS-323-48	c 09	N72-25262 *	US-PATENT-CLASS-324-33	c 14	N71-27090 *
US-PATENT-CLASS-321-11	c 09	N69-39984 * #	US-PATENT-CLASS-323-4	c 33	N78-17294 *	US-PATENT-CLASS-324-34FL	c 35	N74-21018 *
US-PATENT-CLASS-321-11	c 09	N72-25252 *	US-PATENT-CLASS-323-56	c 10	N72-25296 *	US-PATENT-CLASS-324-34R	c 26	N76-18257 *
US-PATENT-CLASS-321-11	c 10	N73-26228 *	US-PATENT-CLASS-323-56	c 09	N71-24893 *	US-PATENT-CLASS-324-34	c 25	N71-16073 *
US-PATENT-CLASS-321-12	c 10	N71-27366 *	US-PATENT-CLASS-323-56	c 09	N72-22196 *	US-PATENT-CLASS-324-404	c 44	N80-18551 *
US-PATENT-CLASS-321-13	c 33	N77-14333 *	US-PATENT-CLASS-323-60	c 09	N71-27053 *	US-PATENT-CLASS-324-40	c 38	N74-15395 *
US-PATENT-CLASS-321-14	c 09	N72-22196 *	US-PATENT-CLASS-323-82	c 09	N72-25262 *	US-PATENT-CLASS-324-41	c 10	N72-28240 *
US-PATENT-CLASS-321-15	c 09	N72-22203 *	US-PATENT-CLASS-323-89C	c 09	N72-22196 *	US-PATENT-CLASS-324-427	c 35	N85-21596 *
US-PATENT-CLASS-321-15	c 33	N75-19522 *	US-PATENT-CLASS-323-8	c 10	N71-10578 *	US-PATENT-CLASS-324-43R	c 35	N76-16390 *
US-PATENT-CLASS-321-18	c 09	N72-22203 *	US-PATENT-CLASS-323-901	c 33	N84-33663 *	US-PATENT-CLASS-324-43	c 14	N69-27423 * #
US-PATENT-CLASS-321-18	c 09	N72-25251 *	US-PATENT-CLASS-323-93	c 33	N77-31404 *	US-PATENT-CLASS-324-43	c 09	N70-40123 *
US-PATENT-CLASS-321-18	c 09	N72-25252 *	US-PATENT-CLASS-324-.5R	c 16	N73-13489 *	US-PATENT-CLASS-324-43	c 14	N71-15962 *
US-PATENT-CLASS-321-18	c 33	N74-11049 *	US-PATENT-CLASS-324-.5	c 14	N71-20428 *	US-PATENT-CLASS-324-43	c 14	N71-26135 *
US-PATENT-CLASS-321-19	c 09	N72-22196 *	US-PATENT-CLASS-324-DIG.1	c 33	N75-19520 *	US-PATENT-CLASS-324-43	c 14	N71-27325 *
US-PATENT-CLASS-321-19	c 09	N72-25252 *	US-PATENT-CLASS-324-DIG.1	c 33	N75-25041 *	US-PATENT-CLASS-324-457	c 72	N84-28575 *
US-PATENT-CLASS-321-19	c 33	N77-10428 *	US-PATENT-CLASS-324-0.5	c 14	N71-26137 *	US-PATENT-CLASS-324-466	c 33	N83-31954 *
US-PATENT-CLASS-321-25	c 09	N72-22196 *	US-PATENT-CLASS-324-0.5	c 14	N71-26266 *	US-PATENT-CLASS-324-51	c 33	N80-26599 *
US-PATENT-CLASS-321-2	c 03	N69-21330 * #	US-PATENT-CLASS-324-102	c 09	N79-14362 *	US-PATENT-CLASS-324-51	c 33	N81-26359 *
US-PATENT-CLASS-321-2	c 03	N69-25146 * #	US-PATENT-CLASS-324-102	c 09	N72-11225 *	US-PATENT-CLASS-324-51	c 33	N82-24420 *
US-PATENT-CLASS-321-2	c 03	N71-12255 *	US-PATENT-CLASS-324-102	c 33	N74-17930 *	US-PATENT-CLASS-324-52	c 14	N72-17325 *
US-PATENT-CLASS-321-2	c 09	N71-23188 *	US-PATENT-CLASS-324-102	c 33	N75-19521 *	US-PATENT-CLASS-324-52	c 14	N73-26486 *
US-PATENT-CLASS-321-2	c 03	N71-23239 *	US-PATENT-CLASS-324-102	c 33	N79-11315 *	US-PATENT-CLASS-324-52	c 33	N79-18193 *
US-PATENT-CLASS-321-2	c 10	N71-26085 *	US-PATENT-CLASS-324-106	c 10	N71-27338 *	US-PATENT-CLASS-324-52	c 33	N82-24420 *
US-PATENT-CLASS-321-2	c 09	N72-22196 *	US-PATENT-CLASS-324-106	c 14	N70-38602 *	US-PATENT-CLASS-324-54	c 33	N75-18477 *
US-PATENT-CLASS-321-2	c 09	N72-22203 *	US-PATENT-CLASS-324-106	c 08	N71-29138 *	US-PATENT-CLASS-324-57DE	c 33	N78-25319 *
US-PATENT-CLASS-321-2	c 03	N72-23048 *	US-PATENT-CLASS-324-107	c 10	N71-27338 *	US-PATENT-CLASS-324-57H	c 35	N77-32455 *
US-PATENT-CLASS-321-2	c 09	N72-25249 *	US-PATENT-CLASS-324-112	c 33	N79-14305 *	US-PATENT-CLASS-324-57PS	c 35	N75-21562 *
US-PATENT-CLASS-321-2	c 09	N72-25251 *	US-PATENT-CLASS-324-113	c 09	N70-41655 *	US-PATENT-CLASS-324-57R	c 15	N72-21464 *
US-PATENT-CLASS-321-2	c 09	N72-25252 *	US-PATENT-CLASS-324-113	c 09	N75-19521 *	US-PATENT-CLASS-324-57R	c 14	N73-30388 *
US-PATENT-CLASS-321-2	c 09	N72-25253 *	US-PATENT-CLASS-324-113	c 33	N75-19521 *	US-PATENT-CLASS-324-57R	c 35	N74-18090 *



US-PATENT-CLASS-324-57R	c 33	N79-10338 *	US-PATENT-CLASS-324-95	c 10	N71-12554 *	US-PATENT-CLASS-325-478	c 07	N71-33696 *
US-PATENT-CLASS-324-57R	c 35	N79-14349 *	US-PATENT-CLASS-324-95	c 14	N73-30388 *	US-PATENT-CLASS-325-480	c 07	N71-33696 *
US-PATENT-CLASS-324-57SS	c 33	N78-25319 *	US-PATENT-CLASS-324-96	c 26	N72-25680 *	US-PATENT-CLASS-325-480	c 10	N73-12244 *
US-PATENT-CLASS-324-57	c 10	N71-16057 *	US-PATENT-CLASS-324-96	c 33	N79-10337 *	US-PATENT-CLASS-325-482	c 07	N71-33696 *
US-PATENT-CLASS-324-57	c 09	N71-20569 *	US-PATENT-CLASS-324-99D	c 33	N79-22373 *	US-PATENT-CLASS-325-492	c 09	N72-17153 *
US-PATENT-CLASS-324-58.5A	c 33	N75-26245 *	US-PATENT-CLASS-325-10	c 07	N72-12081 *	US-PATENT-CLASS-325-492	c 09	N72-22202 *
US-PATENT-CLASS-324-58.5B	c 43	N78-10529 *	US-PATENT-CLASS-325-113	c 07	N71-24840 *	US-PATENT-CLASS-325-4	c 07	N71-16088 *
US-PATENT-CLASS-324-58.5C	c 33	N75-26245 *	US-PATENT-CLASS-325-113	c 07	N73-25160 *	US-PATENT-CLASS-325-4	c 07	N71-19773 *
US-PATENT-CLASS-324-58.5	c 15	N71-17822 *	US-PATENT-CLASS-325-113	c 52	N74-26625 *	US-PATENT-CLASS-325-4	c 07	N71-24621 *
US-PATENT-CLASS-324-58.5	c 25	N71-20563 *	US-PATENT-CLASS-325-114	c 07	N72-25171 *	US-PATENT-CLASS-325-4	c 07	N72-11149 *
US-PATENT-CLASS-324-58.5	c 14	N71-26137 *	US-PATENT-CLASS-325-114	c 03	N76-32140 *	US-PATENT-CLASS-325-4	c 07	N72-12080 *
US-PATENT-CLASS-324-58.5	c 18	N71-27397 *	US-PATENT-CLASS-325-115	c 03	N76-32140 *	US-PATENT-CLASS-325-4	c 07	N72-20140 *
US-PATENT-CLASS-324-58A	c 33	N78-25319 *	US-PATENT-CLASS-325-118	c 17	N78-17140 *	US-PATENT-CLASS-325-4	c 07	N72-25171 *
US-PATENT-CLASS-324-59	c 35	N77-32455 *	US-PATENT-CLASS-325-12	c 07	N73-20174 *	US-PATENT-CLASS-325-4	c 07	N73-20174 *
US-PATENT-CLASS-324-5	c 14	N71-28991 *	US-PATENT-CLASS-325-139	c 07	N73-25160 *	US-PATENT-CLASS-325-4	c 15	N75-13007 *
US-PATENT-CLASS-324-60C	c 35	N75-12270 *	US-PATENT-CLASS-325-13	c 07	N72-12081 *	US-PATENT-CLASS-325-4	c 32	N75-26195 *
US-PATENT-CLASS-324-60C	c 76	N76-20994 *	US-PATENT-CLASS-325-141	c 07	N72-25173 *	US-PATENT-CLASS-325-4	c 32	N77-20289 *
US-PATENT-CLASS-324-60	c 33	N77-31404 *	US-PATENT-CLASS-325-141	c 52	N74-26625 *	US-PATENT-CLASS-325-4	c 32	N79-11265 *
US-PATENT-CLASS-324-61-R	c 35	N87-22953 *	US-PATENT-CLASS-325-143	c 05	N71-12342 *	US-PATENT-CLASS-325-4	c 32	N80-20448 *
US-PATENT-CLASS-324-61-R	c 35	N86-29149 *	US-PATENT-CLASS-325-145	c 32	N77-14292 *	US-PATENT-CLASS-325-51	c 07	N72-25173 *
US-PATENT-CLASS-324-61R	c 14	N72-24477 *	US-PATENT-CLASS-325-148	c 32	N74-19790 *	US-PATENT-CLASS-325-55	c 07	N72-25173 *
US-PATENT-CLASS-324-61R	c 35	N76-22509 *	US-PATENT-CLASS-325-14	c 17	N76-21250 *	US-PATENT-CLASS-325-58	c 07	N72-11149 *
US-PATENT-CLASS-324-61	c 14	N69-39785 *	US-PATENT-CLASS-325-14	c 32	N80-20448 *	US-PATENT-CLASS-325-58	c 07	N72-25173 *
US-PATENT-CLASS-324-61	c 14	N70-36618 *	US-PATENT-CLASS-325-151.11	c 08	N71-27057 *	US-PATENT-CLASS-325-58	c 07	N72-25173 *
US-PATENT-CLASS-324-61	c 14	N71-10797 *	US-PATENT-CLASS-325-159	c 33	N78-32340 *	US-PATENT-CLASS-325-58	c 32	N78-15323 *
US-PATENT-CLASS-324-61	c 18	N71-27397 *	US-PATENT-CLASS-325-163	c 07	N71-23405 *	US-PATENT-CLASS-325-58	c 32	N79-20296 *
US-PATENT-CLASS-324-61	c 14	N72-22442 *	US-PATENT-CLASS-325-16	c 07	N71-27056 *	US-PATENT-CLASS-325-5	c 07	N73-20174 *
US-PATENT-CLASS-324-62R	c 14	N73-30388 *	US-PATENT-CLASS-325-17	c 07	N73-20174 *	US-PATENT-CLASS-325 60	c 08	N71-19763 *
US-PATENT-CLASS-324-62	c 33	N80-32650 *	US-PATENT-CLASS-325-185	c 07	N71-28430 *	US-PATENT-CLASS-325-60	c 07	N73-16121 *
US-PATENT-CLASS-324-64	c 15	N72-21464 *	US-PATENT-CLASS-325-186	c 03	N76-32140 *	US-PATENT-CLASS-325-60	c 32	N75-24981 *
US-PATENT-CLASS-324-64	c 33	N80-32650 *	US-PATENT-CLASS-325-187	c 33	N78-32340 *	US-PATENT-CLASS-325-61	c 07	N73-25160 *
US-PATENT-CLASS-324-65-P	c 35	N85-34373 *	US-PATENT-CLASS-325-23	c 07	N71-27056 *	US-PATENT-CLASS-325-62	c 08	N72-25208 *
US-PATENT-CLASS-324-65P	c 14	N73-20478 *	US-PATENT-CLASS-325-29	c 09	N72-22202 *	US-PATENT-CLASS-325-62	c 44	N74-19870 *
US-PATENT-CLASS-324-65R	c 15	N72-23497 *	US-PATENT-CLASS-325-302	c 07	N72-25173 *	US-PATENT-CLASS-325-63	c 10	N71-19467 *
US-PATENT-CLASS-324-65R	c 33	N85-30187 *	US-PATENT-CLASS-325-304	c 32	N76-14321 *	US-PATENT-CLASS-325-63	c 07	N73-20174 *
US-PATENT-CLASS-324-65	c 14	N71-27186 *	US-PATENT-CLASS-325-305	c 07	N71-10775 *	US-PATENT-CLASS-325-63	c 32	N78-15323 *
US-PATENT-CLASS-324-66	c 05	N72-16015 *	US-PATENT-CLASS-325-305	c 10	N71-20841 *	US-PATENT-CLASS-325-63	c 32	N79-20296 *
US-PATENT-CLASS-324-70	c 14	N70-41332 *	US-PATENT-CLASS-325-305	c 07	N71-23098 *	US-PATENT-CLASS-325-64	c 07	N72-25173 *
US-PATENT-CLASS-324-70	c 14	N71-22990 *	US-PATENT-CLASS-325-305	c 32	N80-18253 *	US-PATENT-CLASS-325-65	c 07	N70-41331 *
US-PATENT-CLASS-324-70	c 10	N71-24863 *	US-PATENT-CLASS-325-306	c 32	N76-14321 *	US-PATENT-CLASS-325-65	c 07	N70-41372 *
US-PATENT-CLASS-324-71.3	c 72	N84-28575 *	US-PATENT-CLASS-325-307	c 32	N80-18253 *	US-PATENT-CLASS-325-65	c 07	N71-11284 *
US-PATENT-CLASS-324-71.5	c 76	N85-30923 *	US-PATENT-CLASS-325-30	c 32	N74-26654 *	US-PATENT-CLASS-325-65	c 32	N77-30308 *
US-PATENT-CLASS-324-71CPC	c 35	N76-22509 *	US-PATENT-CLASS-325-30	c 32	N75-24981 *	US-PATENT-CLASS-325-66	c 17	N78-17140 *
US-PATENT-CLASS-324-71CPC	c 35	N82-11431 *	US-PATENT-CLASS-325-30	c 32	N77-30308 *	US-PATENT-CLASS-325-67	c 07	N71-26292 *
US-PATENT-CLASS-324-71R	c 09	N72-21246 *	US-PATENT-CLASS-325-31	c 07	N71-20791 *	US-PATENT-CLASS-325-67	c 10	N73-25241 *
US-PATENT-CLASS-324-71R	c 15	N72-21464 *	US-PATENT-CLASS-325-320	c 33	N74-12887 *	US-PATENT-CLASS-325-67	c 35	N75-21582 *
US-PATENT-CLASS-324-71	c 09	N71-24843 *	US-PATENT-CLASS-325-320	c 32	N74-20809 *	US-PATENT-CLASS-325-67	c 32	N79-11265 *
US-PATENT-CLASS-324-72.5	c 44	N74-27519 *	US-PATENT-CLASS-325-320	c 32	N74-20811 *	US-PATENT-CLASS-325-7	c 07	N73-20174 *
US-PATENT-CLASS-324-72.5	c 72	N84-28575 *	US-PATENT-CLASS-325-320	c 33	N74-27705 *	US-PATENT-CLASS-325-8	c 07	N73-20174 *
US-PATENT-CLASS-324-72	c 10	N71-19421 *	US-PATENT-CLASS-325-321	c 07	N72-20140 *	US-PATENT-CLASS-325-8	c 32	N80-20448 *
US-PATENT-CLASS-324-72	c 14	N71-23699 *	US-PATENT-CLASS-325-321	c 32	N74-20810 *	US-PATENT-CLASS-325-9	c 07	N73-20174 *
US-PATENT-CLASS-324-72	c 07	N73-20175 *	US-PATENT-CLASS-325-321	c 32	N76-16249 *	US-PATENT-CLASS-325-9	c 32	N80-20448 *
US-PATENT-CLASS-324-72	c 14	N73-32318 *	US-PATENT-CLASS-325-323	c 32	N77-10392 *	US-PATENT-CLASS-328-104	c 08	N72-22162 *
US-PATENT-CLASS-324-72	c 33	N74-27862 *	US-PATENT-CLASS-325-325	c 07	N71-24613 *	US-PATENT-CLASS-328-104	c 10	N73-13235 *
US-PATENT-CLASS-324-72	c 33	N75-26246 *	US-PATENT-CLASS-325-325	c 07	N72-25173 *	US-PATENT-CLASS-328-106	c 09	N72-22201 *
US-PATENT-CLASS-324-72	c 33	N77-10429 *	US-PATENT-CLASS-325-325	c 07	N73-13149 *	US-PATENT-CLASS-328-110	c 09	N71-12519 *
US-PATENT-CLASS-324-72	c 33	N79-10337 *	US-PATENT-CLASS-325-346	c 10	N73-16205 *	US-PATENT-CLASS-328-111	c 60	N77-12721 *
US-PATENT-CLASS-324-72	c 33	N79-14305 *	US-PATENT-CLASS-325-346	c 32	N74-30523 *	US-PATENT-CLASS-328-115	c 33	N75-18479 *
US-PATENT-CLASS-324-72	c 47	N82-24779 *	US-PATENT-CLASS-325-346	c 32	N77-24331 *	US-PATENT-CLASS-328-116	c 09	N69-39885 *
US-PATENT-CLASS-324-73AT	c 08	N72-22166 *	US-PATENT-CLASS-325-347	c 07	N71-33696 *	US-PATENT-CLASS-328-120	c 09	N71-27016 *
US-PATENT-CLASS-324-73AT	c 33	N81-26359 *	US-PATENT-CLASS-325-348	c 07	N71-33696 *	US-PATENT-CLASS-328-123	c 60	N74-12888 *
US-PATENT-CLASS-324-73R	c 33	N83-18996 *	US-PATENT-CLASS-325-349	c 32	N77-10392 *	US-PATENT-CLASS-328-129	c 14	N73-30386 *
US-PATENT-CLASS-324-73	c 14	N71-28991 *	US-PATENT-CLASS-325-363	c 07	N71-11267 *	US-PATENT-CLASS-328-133	c 09	N71-24596 *
US-PATENT-CLASS-324-74	c 35	N78-28411 *	US-PATENT-CLASS-325-363	c 14	N71-26774 *	US-PATENT-CLASS-328-133	c 10	N72-20224 *
US-PATENT-CLASS-324-77-E	c 33	N89-14385 *	US-PATENT-CLASS-325-363	c 14	N72-28437 *	US-PATENT-CLASS-328-133	c 33	N75-26243 *
US-PATENT-CLASS-324-77-R	c 33	N89-14385 *	US-PATENT-CLASS-325-363	c 10	N73-25241 *	US-PATENT-CLASS-328-133	c 33	N77-13315 *
US-PATENT-CLASS-324-77B	c 60	N75-13539 *	US-PATENT-CLASS-325-363	c 35	N80-18359 *	US-PATENT-CLASS-328-133	c 33	N79-11313 *
US-PATENT-CLASS-324-77B	c 32	N79-10262 *	US-PATENT-CLASS-325-369	c 07	N71-27056 *	US-PATENT-CLASS-328-133	c 33	N84-16454 *
US-PATENT-CLASS-324-77C	c 32	N79-10262 *	US-PATENT-CLASS-325-372	c 32	N76-14321 *	US-PATENT-CLASS-328-134	c 08	N71-18692 *
US-PATENT-CLASS-324-77G	c 08	N72-20177 *	US-PATENT-CLASS-325-373	c 07	N72-33146 *	US-PATENT-CLASS-328-134	c 14	N73-30386 *
US-PATENT-CLASS-324-77H	c 35	N75-21582 *	US-PATENT-CLASS-325-388	c 35	N74-17885 *	US-PATENT-CLASS-328-134	c 33	N76-16331 *
US-PATENT-CLASS-324-77K	c 35	N79-10391 *	US-PATENT-CLASS-325-38	c 07	N72-20140 *	US-PATENT-CLASS-328-134	c 33	N81-17349 *
US-PATENT-CLASS-324-77R	c 10	N73-25240 *	US-PATENT-CLASS-325-38	c 07	N72-25173 *	US-PATENT-CLASS-328-136	c 09	N72-25257 *
US-PATENT-CLASS-324-77R	c 47	N82-24779 *	US-PATENT-CLASS-325-39	c 07	N72-11149 *	US-PATENT-CLASS-328-140	c 09	N72-25257 *
US-PATENT-CLASS-324-77	c 09	N71-10659 *	US-PATENT-CLASS-325-40	c 07	N73-26118 *	US-PATENT-CLASS-328-142	c 09	N72-12425 *
US-PATENT-CLASS-324-77	c 07	N71-24622 *	US-PATENT-CLASS-325-419	c 10	N73-16205 *	US-PATENT-CLASS-328-145	c 32	N76-14321 *
US-PATENT-CLASS-324-78-D	c 33	N89-14385 *	US-PATENT-CLASS-325-419	c 07	N73-28012 *	US-PATENT-CLASS-328-145	c 09	N72-23173 *
US-PATENT-CLASS-324-78-F	c 33	N89-14385 *	US-PATENT-CLASS-325-419	c 32	N74-20810 *	US-PATENT-CLASS-328-145	c 33	N78-32339 *
US-PATENT-CLASS-324-78D	c 09	N72-25257 *	US-PATENT-CLASS-325-419	c 32	N74-20811 *	US-PATENT-CLASS-328-147	c 33	N87-21235 *
US-PATENT-CLASS-324-78D	c 52	N74-12778 *	US-PATENT-CLASS-325-419	c 32	N80-18253 *	US-PATENT-CLASS-328-150	c 33	N78-18308 *
US-PATENT-CLASS-324-78E	c 14	N73-24473 *	US-PATENT-CLASS-325-41	c 10	N71-26577 *	US-PATENT-CLASS-328-151	c 09	N72-22200 *
US-PATENT-CLASS-324-78J	c 10	N73-25240 *	US-PATENT-CLASS-325-41	c 32	N77-12240 *	US-PATENT-CLASS-328-151	c 33	N75-18479 *
US-PATENT-CLASS-324-78J	c 33	N75-19515 *	US-PATENT-CLASS-325-41	c 32	N79-10263 *	US-PATENT-CLASS-328-151	c 33	N81-27396 *
US-PATENT-CLASS-324-79D	c 14	N73-30386 *	US-PATENT-CLASS-325-420	c 07	N73-30113 *	US-PATENT-CLASS-328-154	c 08	N72-22162 *
US-PATENT-CLASS-324-79D	c 33	N76-16331 *	US-PATENT-CLASS-325-422	c 07	N73-30113 *	US-PATENT-CLASS-328-154	c 10	N73-13235 *
US-PATENT-CLASS-324-79R	c 14	N72-27408 *	US-PATENT-CLASS-325-423	c 32	N74-20809 *	US-PATENT-CLASS-328-154	c 33	N74-22814 *
US-PATENT-CLASS-324-79R	c 33	N84-16454 *	US-PATENT-CLASS-325-42	c 07	N71-11266 *	US-PATENT-CLASS-328-155	c 10	N72-16172 *
US-PATENT-CLASS-324-83A	c 10	N72-20224 *	US-PATENT-CLASS-325-42	c 32	N76-21366 *	US-PATENT-CLASS-328-155	c 09	N72-33204 *
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US-PATENT-CLASS-324-83D	c 33	N79-10338 *	US-PATENT-CLASS-325-445	c 07	N72-20141 *	US-PATENT-CLASS-328-155	c 17	N76-22245 *
US-PATENT-CLASS-324-83Q	c 35	N74-21017 *	US-PATENT-CLASS-325-446	c 09	N69-24324 *	US-PATENT-CLASS-328-155	c 32	N88-29076 *
US-PATENT-CLASS-324-83Q	c 33	N75-26243 *	US-PATENT-CLASS-325-45	c 07	N73-25160 *	US-PATENT-CLASS-328-160	c 32	N74-19788 *
US-PATENT-CLASS-324-83R	c 33	N84-16454 *	US-PATENT-CLASS-325-473	c 07	N71-33696 *	US-PATENT-CLASS-328-161	c 33	N77-17354 *
US-PATENT-CLASS-324-85	c 10	N72-20224 *	US-PATENT-CLASS-325-473	c 10	N73-12244 *	US-PATENT-CLASS-328-163	c 33	N79-10338 *
US-PATENT-CLASS-324-85	c 33	N79-10338 *	US-PATENT-CLASS-325-473	c 32	N77-30308 *	US-PATENT-CLASS-328-164	c 07	N71-33696 *
US-PATENT-CLASS-324-92	c 26	N72-25680 *	US-PATENT-CLASS-325-476	c 32	N77-10392 *	US-PATENT-CLASS-328-164	c 33	N87-21235 *

US-PATENT-CLASS-328-165	c 09	N71-24806 *	US-PATENT-CLASS-329-50	c 35	N81-19427 *	US-PATENT-CLASS-330-294	c 33	N87-22895 *
US-PATENT-CLASS-328-165	c 07	N71-33696 *	US-PATENT-CLASS-33-8UB	c 27	N81-15104 *	US-PATENT-CLASS-330-29	c 09	N69-24330 *
US-PATENT-CLASS-328-166	c 10	N72-20223 *	US-PATENT-CLASS-33-DIG.13	c 35	N75-12273 *	US-PATENT-CLASS-330-29	c 10	N72-28241 *
US-PATENT-CLASS-328-166	c 33	N82-29539 *	US-PATENT-CLASS-33-DIG.3	c 04	N84-14132 *	US-PATENT-CLASS-330-2	c 09	N69-39986 *
US-PATENT-CLASS-328-167	c 10	N71-22986 *	US-PATENT-CLASS-33-1G	c 37	N76-21554 *	US-PATENT-CLASS-330-2	c 09	N72-25250 *
US-PATENT-CLASS-328-167	c 08	N71-29034 *	US-PATENT-CLASS-33-1M	c 35	N74-32877 *	US-PATENT-CLASS-330-2	c 33	N78-10375 *
US-PATENT-CLASS-328-167	c 10	N72-17171 *	US-PATENT-CLASS-33-1N	c 43	N79-26439 *	US-PATENT-CLASS-330-2	c 33	N79-22373 *
US-PATENT-CLASS-328-167	c 09	N72-21245 *	US-PATENT-CLASS-33-1Q	c 43	N79-26439 *	US-PATENT-CLASS-330-30D	c 10	N72-20221 *
US-PATENT-CLASS-328-167	c 09	N73-20231 *	US-PATENT-CLASS-33-1SA	c 14	N72-28436 *	US-PATENT-CLASS-330-30D	c 09	N73-20232 *
US-PATENT-CLASS-328-167	c 08	N73-26175 *	US-PATENT-CLASS-33-1SA	c 19	N74-21015 *	US-PATENT-CLASS-330-302	c 33	N85-29145 *
US-PATENT-CLASS-328-167	c 33	N82-24417 *	US-PATENT-CLASS-33-125R	c 52	N80-27072 *	US-PATENT-CLASS-330-306	c 33	N82-24417 *
US-PATENT-CLASS-328-167	c 33	N85-29145 *	US-PATENT-CLASS-33-125	c 14	N72-11364 *	US-PATENT-CLASS-330-306	c 33	N85-29145 *
US-PATENT-CLASS-328-168	c 32	N74-19788 *	US-PATENT-CLASS-33-143C	c 52	N82-22875 *	US-PATENT-CLASS-330-30	c 09	N71-19466 *
US-PATENT-CLASS-328-16	c 10	N72-20223 *	US-PATENT-CLASS-33-147D	c 37	N88-14361 *	US-PATENT-CLASS-330-30	c 09	N71-19516 *
US-PATENT-CLASS-328-171	c 10	N71-24844 *	US-PATENT-CLASS-33-147	c 15	N71-19489 *	US-PATENT-CLASS-330-30	c 09	N71-27016 *
US-PATENT-CLASS-328-172	c 32	N74-19788 *	US-PATENT-CLASS-33-148D	c 35	N75-19615 *	US-PATENT-CLASS-330-310	c 33	N83-34191 *
US-PATENT-CLASS-328-172	c 33	N78-17294 *	US-PATENT-CLASS-33-149	c 14	N71-17657 *	US-PATENT-CLASS-330-311	c 33	N86-20670 *
US-PATENT-CLASS-328-186	c 09	N71-17157 *	US-PATENT-CLASS-33-15A	c 08	N72-11172 *	US-PATENT-CLASS-330-31	c 10	N71-26331 *
US-PATENT-CLASS-328-187	c 10	N73-20254 *	US-PATENT-CLASS-33-155R	c 33	N76-19338 *	US-PATENT-CLASS-330-31	c 10	N72-17172 *
US-PATENT-CLASS-328-189	c 14	N72-27408 *	US-PATENT-CLASS-33-169F	c 35	N84-28018 *	US-PATENT-CLASS-330-35	c 09	N72-17156 *
US-PATENT-CLASS-328-190	c 33	N76-14371 *	US-PATENT-CLASS-33-174B	c 37	N76-21554 *	US-PATENT-CLASS-330-35	c 09	N73-20232 *
US-PATENT-CLASS-328-192	c 60	N81-15706 *	US-PATENT-CLASS-33-174D	c 33	N76-19338 *	US-PATENT-CLASS-330-35	c 33	N74-14939 *
US-PATENT-CLASS-328-1	c 23	N71-16099 *	US-PATENT-CLASS-33-174L	c 43	N79-26439 *	US-PATENT-CLASS-330-4.3	c 16	N77-25391 *
US-PATENT-CLASS-328-1	c 10	N71-19472 *	US-PATENT-CLASS-33-174S	c 14	N72-22445 *	US-PATENT-CLASS-330-4.3	c 36	N75-19655 *
US-PATENT-CLASS-328-1	c 09	N72-22200 *	US-PATENT-CLASS-33-174	c 14	N69-21363 *	US-PATENT-CLASS-330-4.3	c 36	N75-27364 *
US-PATENT-CLASS-328-207	c 09	N71-28468 *	US-PATENT-CLASS-33-174	c 14	N71-17658 *	US-PATENT-CLASS-330-4.3	c 36	N75-32441 *
US-PATENT-CLASS-328-207	c 10	N71-28860 *	US-PATENT-CLASS-33-174	c 14	N71-24693 *	US-PATENT-CLASS-330-4.3	c 36	N76-29575 *
US-PATENT-CLASS-328-207	c 09	N71-29139 *	US-PATENT-CLASS-33-180R	c 35	N75-12273 *	US-PATENT-CLASS-330-4.3	c 36	N77-25502 *
US-PATENT-CLASS-328-207	c 10	N72-20221 *	US-PATENT-CLASS-33-189	c 15	N71-26145 *	US-PATENT-CLASS-330-4.3	c 73	N78-19920 *
US-PATENT-CLASS-328-20	c 10	N72-20223 *	US-PATENT-CLASS-33-1	c 14	N70-36907 *	US-PATENT-CLASS-330-4.3	c 36	N82-28616 *
US-PATENT-CLASS-328-230	c 35	N84-12444 *	US-PATENT-CLASS-33-204C	c 08	N72-11172 *	US-PATENT-CLASS-330-4.5	c 09	N72-25258 *
US-PATENT-CLASS-328-233	c 10	N71-22962 *	US-PATENT-CLASS-33-207	c 15	N71-15571 *	US-PATENT-CLASS-330-4.9	c 33	N74-32660 *
US-PATENT-CLASS-328-233	c 75	N75-13625 *	US-PATENT-CLASS-33-23R	c 35	N74-32877 *	US-PATENT-CLASS-330-40	c 07	N71-28430 *
US-PATENT-CLASS-328-233	c 37	N78-17386 *	US-PATENT-CLASS-33-268	c 89	N74-30886 *	US-PATENT-CLASS-330-40	c 09	N72-17155 *
US-PATENT-CLASS-328-24	c 09	N72-33204 *	US-PATENT-CLASS-33-285	c 36	N74-21091 *	US-PATENT-CLASS-330-40	c 09	N73-20232 *
US-PATENT-CLASS-328-28	c 33	N87-21235 *	US-PATENT-CLASS-33-286	c 18	N76-14186 *	US-PATENT-CLASS-330-40	c 33	N75-30428 *
US-PATENT-CLASS-328-37	c 08	N71-12503 *	US-PATENT-CLASS-33-293	c 35	N84-16523 *	US-PATENT-CLASS-330-43	c 33	N79-10339 *
US-PATENT-CLASS-328-37	c 10	N73-20254 *	US-PATENT-CLASS-33-31	c 14	N71-21079 *	US-PATENT-CLASS-330-43	c 33	N82-26568 *
US-PATENT-CLASS-328-37	c 33	N76-14373 *	US-PATENT-CLASS-33-322	c 06	N83-33882 *	US-PATENT-CLASS-330-43	c 33	N86-21742 *
US-PATENT-CLASS-328-37	c 33	N81-17349 *	US-PATENT-CLASS-33-348	c 04	N84-14132 *	US-PATENT-CLASS-330-49	c 14	N70-35220 *
US-PATENT-CLASS-328-38	c 10	N72-20223 *	US-PATENT-CLASS-33-356	c 04	N76-20114 *	US-PATENT-CLASS-330-4	c 16	N71-15550 *
US-PATENT-CLASS-328-38	c 33	N77-24375 *	US-PATENT-CLASS-33-356	c 04	N77-19056 *	US-PATENT-CLASS-330-4	c 16	N71-24831 *
US-PATENT-CLASS-328-39	c 33	N77-24375 *	US-PATENT-CLASS-33-356	c 04	N84-14132 *	US-PATENT-CLASS-330-4	c 16	N72-28521 *
US-PATENT-CLASS-328-4-8	c 33	N77-24375 *	US-PATENT-CLASS-33-361	c 04	N84-14132 *	US-PATENT-CLASS-330-4	c 36	N75-15029 *
US-PATENT-CLASS-328-41	c 33	N75-31330 *	US-PATENT-CLASS-33-366	c 35	N78-32395 *	US-PATENT-CLASS-330-4	c 36	N76-31512 *
US-PATENT-CLASS-328-42	c 08	N71-19432 *	US-PATENT-CLASS-33-46R	c 19	N74-21015 *	US-PATENT-CLASS-330-4	c 36	N78-18410 *
US-PATENT-CLASS-328-44	c 08	N71-29034 *	US-PATENT-CLASS-33-72	c 15	N72-11386 *	US-PATENT-CLASS-330-4	c 36	N80-18372 *
US-PATENT-CLASS-328-48	c 14	N73-30386 *	US-PATENT-CLASS-33-75R	c 14	N72-28436 *	US-PATENT-CLASS-330-4	c 36	N83-35350 *
US-PATENT-CLASS-328-48	c 33	N74-10223 *	US-PATENT-CLASS-33-96	c 33	N75-30430 *	US-PATENT-CLASS-330-5.5	c 71	N77-26919 *
US-PATENT-CLASS-328-48	c 60	N81-15706 *	US-PATENT-CLASS-330-103	c 32	N74-22096 *	US-PATENT-CLASS-330-51	c 10	N71-28859 *
US-PATENT-CLASS-328-49	c 10	N71-27137 *	US-PATENT-CLASS-330-107	c 10	N72-11256 *	US-PATENT-CLASS-330-51	c 33	N79-22373 *
US-PATENT-CLASS-328-55	c 33	N81-17349 *	US-PATENT-CLASS-330-107	c 10	N72-17172 *	US-PATENT-CLASS-330-52	c 71	N78-14867 *
US-PATENT-CLASS-328-58	c 08	N71-29138 *	US-PATENT-CLASS-330-107	c 33	N84-14421 *	US-PATENT-CLASS-330-53	c 33	N74-32660 *
US-PATENT-CLASS-328-58	c 33	N74-32711 *	US-PATENT-CLASS-330-107	c 33	N87-22895 *	US-PATENT-CLASS-330-59	c 09	N72-25250 *
US-PATENT-CLASS-328-58	c 33	N75-18479 *	US-PATENT-CLASS-330-109	c 10	N72-11256 *	US-PATENT-CLASS-330-59	c 33	N74-21851 *
US-PATENT-CLASS-328-59	c 33	N75-19515 *	US-PATENT-CLASS-330-109	c 10	N72-17171 *	US-PATENT-CLASS-330-59	c 33	N77-14335 *
US-PATENT-CLASS-328-61	c 09	N71-23525 *	US-PATENT-CLASS-330-109	c 10	N72-17172 *	US-PATENT-CLASS-330-5	c 33	N75-27251 *
US-PATENT-CLASS-328-61	c 10	N73-20254 *	US-PATENT-CLASS-330-109	c 09	N73-20231 *	US-PATENT-CLASS-330-61	c 09	N71-23097 *
US-PATENT-CLASS-328-61	c 35	N75-30504 *	US-PATENT-CLASS-330-109	c 33	N82-24417 *	US-PATENT-CLASS-330-63	c 33	N75-30428 *
US-PATENT-CLASS-328-62	c 35	N75-30504 *	US-PATENT-CLASS-330-109	c 33	N84-14421 *	US-PATENT-CLASS-330-69	c 33	N74-32712 *
US-PATENT-CLASS-328-63	c 33	N76-14371 *	US-PATENT-CLASS-330-109	c 33	N84-22887 *	US-PATENT-CLASS-330-69	c 33	N75-19518 *
US-PATENT-CLASS-328-63	c 33	N77-24375 *	US-PATENT-CLASS-330-10	c 33	N74-14939 *	US-PATENT-CLASS-330-6	c 35	N75-13213 *
US-PATENT-CLASS-328-67	c 10	N71-28960 *	US-PATENT-CLASS-330-110	c 33	N83-36356 *	US-PATENT-CLASS-330-70CR	c 10	N73-27171 *
US-PATENT-CLASS-328-67	c 33	N82-24418 *	US-PATENT-CLASS-330-11	c 09	N71-13531 *	US-PATENT-CLASS-330-70R	c 09	N72-21245 *
US-PATENT-CLASS-328-67	c 33	N88-24862 *	US-PATENT-CLASS-330-11	c 10	N71-33129 *	US-PATENT-CLASS-330-80T	c 09	N73-20232 *
US-PATENT-CLASS-328-71	c 60	N81-15706 *	US-PATENT-CLASS-330-11	c 09	N72-17156 *	US-PATENT-CLASS-330-85	c 09	N72-21245 *
US-PATENT-CLASS-328-92	c 10	N71-28860 *	US-PATENT-CLASS-330-124	c 07	N71-28430 *	US-PATENT-CLASS-330-86	c 09	N73-20231 *
US-PATENT-CLASS-329-104	c 07	N71-11282 *	US-PATENT-CLASS-330-12	c 10	N72-32230 *	US-PATENT-CLASS-330-86	c 33	N75-19518 *
US-PATENT-CLASS-329-104	c 33	N74-12887 *	US-PATENT-CLASS-330-13	c 10	N71-26415 *	US-PATENT-CLASS-330-86	c 33	N79-22373 *
US-PATENT-CLASS-329-104	c 32	N77-24331 *	US-PATENT-CLASS-330-13	c 33	N75-30428 *	US-PATENT-CLASS-330-8	c 33	N81-24338 *
US-PATENT-CLASS-329-107	c 35	N81-19427 *	US-PATENT-CLASS-330-14	c 09	N70-35440 *	US-PATENT-CLASS-330-94	c 10	N72-17172 *
US-PATENT-CLASS-329-107	c 32	N87-21207 *	US-PATENT-CLASS-330-14	c 33	N77-14335 *	US-PATENT-CLASS-330-9	c 33	N74-14939 *
US-PATENT-CLASS-329-119	c 33	N77-21314 *	US-PATENT-CLASS-330-16	c 10	N71-33129 *	US-PATENT-CLASS-331-DIG.1	c 36	N75-30524 *
US-PATENT-CLASS-329-120	c 07	N73-30113 *	US-PATENT-CLASS-330-176	c 10	N72-17171 *	US-PATENT-CLASS-331-DIG.2	c 33	N81-33405 *
US-PATENT-CLASS-329-122	c 10	N71-19469 *	US-PATENT-CLASS-330-18	c 09	N72-17155 *	US-PATENT-CLASS-331-1A	c 33	N86-20668 *
US-PATENT-CLASS-329-122	c 07	N73-28012 *	US-PATENT-CLASS-330-18	c 33	N75-30428 *	US-PATENT-CLASS-331-1A	c 33	N74-10194 *
US-PATENT-CLASS-329-122	c 33	N74-12887 *	US-PATENT-CLASS-330-200	c 07	N71-28430 *	US-PATENT-CLASS-331-1A	c 33	N75-25040 *
US-PATENT-CLASS-329-122	c 32	N74-20811 *	US-PATENT-CLASS-330-207A	c 33	N75-30429 *	US-PATENT-CLASS-331-1A	c 33	N79-11313 *
US-PATENT-CLASS-329-122	c 33	N77-14334 *	US-PATENT-CLASS-330-20	c 09	N73-20232 *	US-PATENT-CLASS-331-107A	c 71	N77-26919 *
US-PATENT-CLASS-329-122	c 32	N77-24331 *	US-PATENT-CLASS-330-22	c 09	N71-10798 *	US-PATENT-CLASS-331-107G	c 26	N72-25679 *
US-PATENT-CLASS-329-122	c 32	N79-14267 *	US-PATENT-CLASS-330-22	c 09	N73-20232 *	US-PATENT-CLASS-331-107G	c 09	N73-15235 *
US-PATENT-CLASS-329-122	c 33	N81-33405 *	US-PATENT-CLASS-330-24	c 10	N71-33129 *	US-PATENT-CLASS-331-107	c 09	N71-18721 *
US-PATENT-CLASS-329-124	c 33	N77-14334 *	US-PATENT-CLASS-330-24	c 33	N75-30429 *	US-PATENT-CLASS-331-107	c 26	N72-21701 *
US-PATENT-CLASS-329-124	c 33	N78-32338 *	US-PATENT-CLASS-330-258	c 33	N86-20670 *	US-PATENT-CLASS-331-108A	c 33	N74-20862 *
US-PATENT-CLASS-329-124	c 32	N84-27952 *	US-PATENT-CLASS-330-261	c 33	N86-20670 *	US-PATENT-CLASS-331-108D	c 33	N86-32624 *
US-PATENT-CLASS-329-126	c 33	N74-12887 *	US-PATENT-CLASS-330-26	c 10	N72-17172 *	US-PATENT-CLASS-331-109	c 10	N71-27271 *
US-PATENT-CLASS-329-140	c 07	N71-24583 *	US-PATENT-CLASS-330-27R	c 10	N72-31273 *	US-PATENT-CLASS-331-109	c 33	N74-26732 *
US-PATENT-CLASS-329-145	c 07	N71-33696 *	US-PATENT-CLASS-330-277	c 33	N84-22887 *	US-PATENT-CLASS-331-109	c 07	N72-11150 *
US-PATENT-CLASS-329-161	c 07	N72-20141 *	US-PATENT-CLASS-330-282	c 33	N83-36356 *	US-PATENT-CLASS-331-111	c 10	N71-23669 *
US-PATENT-CLASS-329-162	c 07	N72-20141 *	US-PATENT-CLASS-330-289	c 33	N83-34191 *	US-PATENT-CLASS-331-111	c 09	N72-21247 *
US-PATENT-CLASS-329-166	c 33	N75-19520 *	US-PATENT-CLASS-330-289	c 33	N84-16454 *	US-PATENT-CLASS-331-113A	c 09	N72-25253 *
US-PATENT-CLASS-329-166	c 33	N75-25041 *	US-PATENT-CLASS-330-28	c 33	N74-21851 *	US-PATENT-CLASS-331-113A	c 09	N72-25254 *
US-PATENT-CLASS-329-204	c 33	N75-19520 *	US-PATENT-CLASS-330-28	c 33	N77-14335 *	US-PATENT-CLASS-331-113A	c 33	N74-11049 *
US-PATENT-CLASS-329-204	c 33	N75-25041 *	US-PATENT-CLASS-330-290	c 33	N82-24417 *	US-PATENT-CLASS-331-113R	c 33	N82-18494 *
US-PATENT-CLASS-329-205	c 33	N77-21314 *	US-PATENT-CLASS-330-294	c 33	N82-24417 *	US-PATENT-CLASS-331-113	c 09	N70-38995 *
US-PATENT-CLASS-329-50	c 33	N74-17930 *	US-PATENT-CLASS-330-294	c 33	N84-22887 *	US-PATENT-CLASS-331-113	c 10	N71-19418 *

US-PATENT-CLASS-331-113	c 09	N71-19470 *	US-PATENT-CLASS-331-94.5PE	c 36	N75-32441 *	US-PATENT-CLASS-333-246	c 33	N82-16340 *
US-PATENT-CLASS-331-113	c 10	N71-25882 *	US-PATENT-CLASS-331-94.5PE	c 36	N77-19416 *	US-PATENT-CLASS-333-252	c 32	N80-32605 *
US-PATENT-CLASS-331-113	c 10	N71-25950 *	US-PATENT-CLASS-331-94.5PE	c 36	N78-27402 *	US-PATENT-CLASS-333-254	c 32	N83-27085 *
US-PATENT-CLASS-331-113	c 09	N71-28810 *	US-PATENT-CLASS-331-94.5PE	c 72	N79-13826 *	US-PATENT-CLASS-333-262	c 33	N80-18285 *
US-PATENT-CLASS-331-114	c 33	N77-17351 *	US-PATENT-CLASS-331-94.5PE	c 33	N82-24418 *	US-PATENT-CLASS-333-30	c 10	N71-25900 *
US-PATENT-CLASS-331-115	c 10	N72-33230 *	US-PATENT-CLASS-331-94.5P	c 36	N75-19655 *	US-PATENT-CLASS-333-6	c 07	N71-33606 *
US-PATENT-CLASS-331-115	c 33	N74-20862 *	US-PATENT-CLASS-331-94.5P	c 36	N75-31426 *	US-PATENT-CLASS-333-70CR	c 10	N72-17171 *
US-PATENT-CLASS-331-116-FE	c 33	N86-19515 *	US-PATENT-CLASS-331-94.5P	c 36	N77-25502 *	US-PATENT-CLASS-333-70R	c 32	N77-18307 *
US-PATENT-CLASS-331-116-R	c 33	N87-21232 *	US-PATENT-CLASS-331-94.5P	c 36	N78-27402 *	US-PATENT-CLASS-333-72	c 10	N71-25900 *
US-PATENT-CLASS-331-116R	c 10	N72-33230 *	US-PATENT-CLASS-331-94.5P	c 72	N79-13826 *	US-PATENT-CLASS-333-72	c 71	N77-26919 *
US-PATENT-CLASS-331-116R	c 33	N74-20862 *	US-PATENT-CLASS-331-94.5P	c 36	N79-18307 *	US-PATENT-CLASS-333-73R	c 09	N73-26195 *
US-PATENT-CLASS-331-116R	c 33	N86-32624 *	US-PATENT-CLASS-331-94.5P	c 36	N80-14384 *	US-PATENT-CLASS-333-73S	c 09	N73-26195 *
US-PATENT-CLASS-331-117-FE	c 33	N86-19515 *	US-PATENT-CLASS-331-94.5P	c 36	N82-13415 *	US-PATENT-CLASS-333-73W	c 07	N72-20141 *
US-PATENT-CLASS-331-117-R	c 33	N87-21232 *	US-PATENT-CLASS-331-94.5S	c 36	N74-15145 *	US-PATENT-CLASS-333-73	c 07	N69-24323 * #
US-PATENT-CLASS-331-117R	c 33	N74-26732 *	US-PATENT-CLASS-331-94.5S	c 36	N77-25499 *	US-PATENT-CLASS-333-73	c 09	N71-23573 *
US-PATENT-CLASS-331-117	c 10	N71-27271 *	US-PATENT-CLASS-331-94.5T	c 35	N77-27366 *	US-PATENT-CLASS-333-75	c 32	N77-18307 *
US-PATENT-CLASS-331-117	c 09	N72-22203 *	US-PATENT-CLASS-331-94.5T	c 36	N78-17366 *	US-PATENT-CLASS-333-76	c 32	N77-18307 *
US-PATENT-CLASS-331-12	c 33	N78-32338 *	US-PATENT-CLASS-331-94.5	c 16	N71-18614 *	US-PATENT-CLASS-333-79	c 10	N70-11964 *
US-PATENT-CLASS-331-135	c 10	N73-32145 *	US-PATENT-CLASS-331-94.5	c 16	N71-24832 *	US-PATENT-CLASS-333-79	c 09	N72-25256 *
US-PATENT-CLASS-331-14	c 09	N72-21247 *	US-PATENT-CLASS-331-94.5	c 23	N71-26722 *	US-PATENT-CLASS-333-7	c 07	N71-33606 *
US-PATENT-CLASS-331-14	c 33	N74-10194 *	US-PATENT-CLASS-331-94.5	c 15	N71-27135 *	US-PATENT-CLASS-333-80R	c 33	N72-25170 *
US-PATENT-CLASS-331-14	c 33	N79-11313 *	US-PATENT-CLASS-331-94.5	c 23	N71-29125 *	US-PATENT-CLASS-333-80T	c 10	N74-32712 *
US-PATENT-CLASS-331-159	c 33	N74-20862 *	US-PATENT-CLASS-331-94.5	c 16	N71-33410 *	US-PATENT-CLASS-333-80T	c 10	N72-33230 *
US-PATENT-CLASS-331-162	c 33	N88-26596 *	US-PATENT-CLASS-331-94.5	c 16	N72-12440 *	US-PATENT-CLASS-333-80	c 09	N71-12517 *
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 US-PATENT-CLASS-340-174.1M ..... c 35 N79-16246 \*  
 US-PATENT-CLASS-340-174.1R ..... c 21 N73-13644 \*  
 US-PATENT-CLASS-340-174.1 ..... c 08 N71-21042 \*  
 US-PATENT-CLASS-340-174.1 ..... c 07 N71-23001 \*  
 US-PATENT-CLASS-340-174.1 ..... c 08 N71-27210 \*  
 US-PATENT-CLASS-340-174AG ..... c 23 N72-17747 \*  
 US-PATENT-CLASS-340-174CS ..... c 08 N72-21199 \*  
 US-PATENT-CLASS-340-174CT ..... c 23 N72-17747 \*  
 US-PATENT-CLASS-340-174GA ..... c 23 N72-17747 \*  
 US-PATENT-CLASS-340-174LC ..... c 08 N72-21199 \*  
 US-PATENT-CLASS-340-174MA ..... c 24 N75-13032 \*  
 US-PATENT-CLASS-340-174M ..... c 08 N72-21199 \*  
 US-PATENT-CLASS-340-174SC ..... c 23 N72-17747 \*  
 US-PATENT-CLASS-340-174SR ..... c 08 N72-21199 \*  
 US-PATENT-CLASS-340-174YC ..... c 36 N74-13205 \*  
 US-PATENT-CLASS-340-174YC ..... c 35 N78-29421 \*  
 US-PATENT-CLASS-340-174 ..... c 08 N71-12504 \*  
 US-PATENT-CLASS-340-174 ..... c 09 N71-12515 \*  
 US-PATENT-CLASS-340-174 ..... c 08 N71-18595 \*  
 US-PATENT-CLASS-340-174 ..... c 08 N71-18694 \*  
 US-PATENT-CLASS-340-174 ..... c 10 N71-23033 \*  
 US-PATENT-CLASS-340-174 ..... c 10 N71-26418 \*  
 US-PATENT-CLASS-340-174 ..... c 10 N71-26434 \*  
 US-PATENT-CLASS-340-174 ..... c 08 N71-28925 \*  
 US-PATENT-CLASS-340-174 ..... c 10 N71-29135 \*  
 US-PATENT-CLASS-340-177VA ..... c 06 N80-18036 \*  
 US-PATENT-CLASS-340-177 ..... c 09 N72-17153 \*  
 US-PATENT-CLASS-340-182 ..... c 33 N74-27862 \*  
 US-PATENT-CLASS-340-183 ..... c 52 N74-26625 \*  
 US-PATENT-CLASS-340-189M ..... c 17 N76-29347 \*  
 US-PATENT-CLASS-340-198 ..... c 14 N70-33179 \*  
 US-PATENT-CLASS-340-198 ..... c 07 N71-11298 \*  
 US-PATENT-CLASS-340-200 ..... c 33 N74-27862 \*  
 US-PATENT-CLASS-340-200 ..... c 33 N77-31404 \*  
 US-PATENT-CLASS-340-203 ..... c 09 N72-22202 \*  
 US-PATENT-CLASS-340-203 ..... c 52 N74-26625 \*  
 US-PATENT-CLASS-340-206 ..... c 17 N76-29347 \*  
 US-PATENT-CLASS-340-207P ..... c 17 N76-22245 \*  
 US-PATENT-CLASS-340-207R ..... c 52 N74-26625 \*  
 US-PATENT-CLASS-340-207 ..... c 07 N73-25160 \*  
 US-PATENT-CLASS-340-210 ..... c 03 N72-20031 \*  
 US-PATENT-CLASS-340-213.1 ..... c 10 N71-19417 \*  
 US-PATENT-CLASS-340-213R ..... c 54 N78-32720 \*  
 US-PATENT-CLASS-340-213 ..... c 10 N71-27272 \*  
 US-PATENT-CLASS-340-223 ..... c 10 N73-32144 \*  
 US-PATENT-CLASS-340-224 ..... c 37 N77-19458 \*  
 US-PATENT-CLASS-340-227R ..... c 14 N72-25412 \*  
 US-PATENT-CLASS-340-227 ..... c 10 N71-16058 \*  
 US-PATENT-CLASS-340-227 ..... c 14 N71-27186 \*  
 US-PATENT-CLASS-340-228.2 ..... c 10 N72-17173 \*  
 US-PATENT-CLASS-340-228S ..... c 14 N73-16484 \*

US-PATENT-CLASS-340-233 ..... c 14 N71-25901 \*  
 US-PATENT-CLASS-340-235 ..... c 10 N71-26334 \*  
 US-PATENT-CLASS-340-237S ..... c 45 N76-17656 \*  
 US-PATENT-CLASS-340-240 ..... c 09 N72-27227 \*  
 US-PATENT-CLASS-340-242 ..... c 35 N75-19612 \*  
 US-PATENT-CLASS-340-248 ..... c 10 N71-27338 \*  
 US-PATENT-CLASS-340-258R ..... c 07 N73-25160 \*  
 US-PATENT-CLASS-340-258 ..... c 10 N72-28240 \*  
 US-PATENT-CLASS-340-25 ..... c 14 N73-16483 \*  
 US-PATENT-CLASS-340-262 ..... c 54 N78-32720 \*  
 US-PATENT-CLASS-340-26 ..... c 21 N72-22619 \*  
 US-PATENT-CLASS-340-26 ..... c 04 N82-16059 \*  
 US-PATENT-CLASS-340-27AT ..... c 21 N73-14692 \*  
 US-PATENT-CLASS-340-27NA ..... c 21 N73-13643 \*  
 US-PATENT-CLASS-340-27NA ..... c 06 N82-16075 \*  
 US-PATENT-CLASS-340-27R ..... c 14 N73-16483 \*  
 US-PATENT-CLASS-340-27R ..... c 14 N73-20474 \*  
 US-PATENT-CLASS-340-27SS ..... c 35 N78-14364 \*  
 US-PATENT-CLASS-340-271 ..... c 35 N77-30436 \*  
 US-PATENT-CLASS-340-277 ..... c 10 N73-30205 \*  
 US-PATENT-CLASS-340-279 ..... c 05 N72-16015 \*  
 US-PATENT-CLASS-340-279 ..... c 10 N73-30205 \*  
 US-PATENT-CLASS-340-279 ..... c 54 N78-32720 \*  
 US-PATENT-CLASS-340-285 ..... c 14 N71-25901 \*  
 US-PATENT-CLASS-340-285 ..... c 54 N78-32720 \*  
 US-PATENT-CLASS-340-309.1 ..... c 54 N78-14621 \*  
 US-PATENT-CLASS-340-309.4 ..... c 33 N81-14221 \*  
 US-PATENT-CLASS-340-310A ..... c 33 N81-14221 \*  
 US-PATENT-CLASS-340-310R ..... c 33 N81-14221 \*  
 US-PATENT-CLASS-340-324AD ..... c 33 N75-19517 \*  
 US-PATENT-CLASS-340-324A ..... c 09 N72-25248 \*  
 US-PATENT-CLASS-340-324R ..... c 26 N72-25680 \*  
 US-PATENT-CLASS-340-324 ..... c 08 N71-12507 \*  
 US-PATENT-CLASS-340-324 ..... c 09 N71-33519 \*  
 US-PATENT-CLASS-340-332 ..... c 09 N72-25250 \*  
 US-PATENT-CLASS-340-336 ..... c 09 N71-33519 \*  
 US-PATENT-CLASS-340-33 ..... c 21 N73-13643 \*  
 US-PATENT-CLASS-340-347AD ..... c 14 N71-28991 \*  
 US-PATENT-CLASS-340-347AD ..... c 08 N72-21200 \*  
 US-PATENT-CLASS-340-347AD ..... c 08 N72-22163 \*  
 US-PATENT-CLASS-340-347AD ..... c 08 N72-22166 \*  
 US-PATENT-CLASS-340-347AD ..... c 08 N72-31226 \*  
 US-PATENT-CLASS-340-347AD ..... c 08 N73-20217 \*  
 US-PATENT-CLASS-340-347AD ..... c 35 N74-17885 \*  
 US-PATENT-CLASS-340-347AD ..... c 35 N74-32877 \*  
 US-PATENT-CLASS-340-347AD ..... c 33 N76-18345 \*  
 US-PATENT-CLASS-340-347AD ..... c 60 N77-32731 \*  
 US-PATENT-CLASS-340-347CC ..... c 31 N86-29055 \*  
 US-PATENT-CLASS-340-347DA ..... c 08 N71-27057 \*  
 US-PATENT-CLASS-340-347DA ..... c 08 N72-20176 \*  
 US-PATENT-CLASS-340-347DA ..... c 08 N72-25206 \*  
 US-PATENT-CLASS-340-347DA ..... c 08 N73-32081 \*  
 US-PATENT-CLASS-340-347DD ..... c 10 N71-33407 \*  
 US-PATENT-CLASS-340-347DD ..... c 08 N72-18184 \*  
 US-PATENT-CLASS-340-347DD ..... c 08 N72-20176 \*  
 US-PATENT-CLASS-340-347DD ..... c 08 N72-21197 \*  
 US-PATENT-CLASS-340-347DD ..... c 08 N73-12176 \*  
 US-PATENT-CLASS-340-347DD ..... c 60 N76-23650 \*  
 US-PATENT-CLASS-340-347DD ..... c 32 N77-12239 \*  
 US-PATENT-CLASS-340-347DD ..... c 60 N78-17691 \*  
 US-PATENT-CLASS-340-347DD ..... c 60 N79-20751 \*  
 US-PATENT-CLASS-340-347DD ..... c 33 N82-26570 \*  
 US-PATENT-CLASS-340-347DD ..... c 32 N86-27513 \*  
 US-PATENT-CLASS-340-347P ..... c 60 N76-23850 \*  
 US-PATENT-CLASS-340-347P ..... c 35 N77-30436 \*  
 US-PATENT-CLASS-340-347R ..... c 08 N72-22165 \*  
 US-PATENT-CLASS-340-347SH ..... c 37 N77-31404 \*  
 US-PATENT-CLASS-340-347SY ..... c 62 N76-31946 \*  
 US-PATENT-CLASS-340-347SY ..... c 35 N77-30436 \*  
 US-PATENT-CLASS-340-347SY ..... c 31 N86-29055 \*  
 US-PATENT-CLASS-340-347 ..... c 08 N70-35423 \*  
 US-PATENT-CLASS-340-347 ..... c 08 N70-40125 \*  
 US-PATENT-CLASS-340-347 ..... c 08 N71-12501 \*  
 US-PATENT-CLASS-340-347 ..... c 08 N71-18594 \*  
 US-PATENT-CLASS-340-347 ..... c 08 N71-19435 \*  
 US-PATENT-CLASS-340-347 ..... c 08 N71-19544 \*  
 US-PATENT-CLASS-340-347 ..... c 08 N71-19687 \*  
 US-PATENT-CLASS-340-347 ..... c 08 N71-24650 \*  
 US-PATENT-CLASS-340-347 ..... c 10 N71-25917 \*  
 US-PATENT-CLASS-340-347 ..... c 10 N71-26544 \*  
 US-PATENT-CLASS-340-347 ..... c 08 N73-28045 \*  
 US-PATENT-CLASS-340-348 ..... c 08 N72-22167 \*  
 US-PATENT-CLASS-340-38P ..... c 66 N76-19888 \*  
 US-PATENT-CLASS-340-403 ..... c 10 N71-27272 \*  
 US-PATENT-CLASS-340-407 ..... c 71 N74-21014 \*  
 US-PATENT-CLASS-340-407 ..... c 82 N87-29372 \*  
 US-PATENT-CLASS-340-412 ..... c 10 N71-24798 \*  
 US-PATENT-CLASS-340-415 ..... c 10 N73-32144 \*  
 US-PATENT-CLASS-340-418 ..... c 14 N73-16484 \*  
 US-PATENT-CLASS-340-5C ..... c 14 N73-27379 \*  
 US-PATENT-CLASS-340-5H ..... c 32 N77-21267 \*  
 US-PATENT-CLASS-340-5R ..... c 35 N74-16135 \*  
 US-PATENT-CLASS-340-518 ..... c 35 N83-34272 \*  
 US-PATENT-CLASS-340-555 ..... c 74 N85-22139 \*  
 US-PATENT-CLASS-340-566 ..... c 35 N83-34272 \*  
 US-PATENT-CLASS-340-57 ..... c 14 N71-15620 \*

US-PATENT-CLASS-340-580	c 35	N88-29149 *	US-PATENT-CLASS-343-112	c 02	N71-19287 *	US-PATENT-CLASS-343-6.5R	c 07	N73-25161 *
US-PATENT-CLASS-340-602	c 33	N80-23559 *	US-PATENT-CLASS-343-112	c 21	N71-24948 *	US-PATENT-CLASS-343-6.5R	c 21	N73-30641 *
US-PATENT-CLASS-340-604	c 33	N80-23559 *	US-PATENT-CLASS-343-113R	c 09	N73-32110 *	US-PATENT-CLASS-343-6.5R	c 32	N74-12912 *
US-PATENT-CLASS-340-605	c 25	N86-27431 *	US-PATENT-CLASS-343-113R	c 44	N78-28594 *	US-PATENT-CLASS-343-6.5R	c 32	N75-15854 *
US-PATENT-CLASS-340-650	c 33	N79-18193 *	US-PATENT-CLASS-343-113	c 10	N71-21473 *	US-PATENT-CLASS-343-6.5R	c 03	N75-30132 *
US-PATENT-CLASS-340-664	c 33	N79-18193 *	US-PATENT-CLASS-343-113	c 07	N71-24625 *	US-PATENT-CLASS-343-6.5R	c 32	N77-20289 *
US-PATENT-CLASS-340-705	c 06	N84-27733 *	US-PATENT-CLASS-343-117R	c 32	N79-13214 *	US-PATENT-CLASS-343-6.5SS	c 32	N74-12912 *
US-PATENT-CLASS-340-8LF	c 71	N79-23753 *	US-PATENT-CLASS-343-117	c 07	N71-27056 *	US-PATENT-CLASS-343-6.5	c 21	N71-11766 *
US-PATENT-CLASS-340-8R	c 35	N74-16135 *	US-PATENT-CLASS-343-118	c 32	N79-13214 *	US-PATENT-CLASS-343-6.5	c 10	N71-23099 *
US-PATENT-CLASS-340-825.21	c 60	N84-28492 *	US-PATENT-CLASS-343-119	c 44	N78-28594 *	US-PATENT-CLASS-343-6.8-R	c 04	N86-19304 *
US-PATENT-CLASS-340-825.5	c 60	N84-28492 *	US-PATENT-CLASS-343-12R	c 08	N72-25209 *	US-PATENT-CLASS-343-6.8R	c 07	N72-12080 *
US-PATENT-CLASS-340-825.5	c 17	N87-16863 *	US-PATENT-CLASS-343-12	c 21	N70-41930 *	US-PATENT-CLASS-343-6.8R	c 07	N73-25161 *
US-PATENT-CLASS-340-825.89	c 33	N82-29538 *	US-PATENT-CLASS-343-12	c 10	N72-20224 *	US-PATENT-CLASS-343-6.8R	c 14	N73-25461 *
US-PATENT-CLASS-340-870.13	c 35	N84-22934 *	US-PATENT-CLASS-343-13-R	c 74	N85-34629 *	US-PATENT-CLASS-343-6R	c 32	N79-10264 *
US-PATENT-CLASS-340-870.18	c 17	N87-16863 *	US-PATENT-CLASS-343-13	c 09	N71-18598 *	US-PATENT-CLASS-343-6	c 30	N71-16090 *
US-PATENT-CLASS-340-870.24	c 33	N81-14221 *	US-PATENT-CLASS-343-14	c 07	N70-41680 *	US-PATENT-CLASS-343-7.4	c 10	N72-22235 *
US-PATENT-CLASS-340-905	c 35	N84-33769 *	US-PATENT-CLASS-343-14	c 08	N72-25209 *	US-PATENT-CLASS-343-7.4	c 32	N79-13214 *
US-PATENT-CLASS-340-945	c 06	N87-22678 *	US-PATENT-CLASS-343-14	c 14	N73-25461 *	US-PATENT-CLASS-343-7.5	c 07	N69-39974 *
US-PATENT-CLASS-340-967	c 08	N87-20999 *	US-PATENT-CLASS-343-14	c 32	N79-14267 *	US-PATENT-CLASS-343-7.5	c 09	N71-24595 *
US-PATENT-CLASS-340-968	c 06	N86-27280 *	US-PATENT-CLASS-343-14	c 31	N79-28370 *	US-PATENT-CLASS-343-7.5	c 07	N72-11149 *
US-PATENT-CLASS-340-971	c 06	N84-27733 *	US-PATENT-CLASS-343-16M	c 10	N72-22235 *	US-PATENT-CLASS-343-7.5	c 44	N74-19870 *
US-PATENT-CLASS-340-971	c 06	N87-22678 *	US-PATENT-CLASS-343-16M	c 44	N78-28594 *	US-PATENT-CLASS-343-7.5	c 32	N82-23376 *
US-PATENT-CLASS-340-975	c 06	N84-27733 *	US-PATENT-CLASS-343-16	c 09	N71-20864 *	US-PATENT-CLASS-343-700MS	c 32	N78-24391 *
US-PATENT-CLASS-340-975	c 06	N87-22678 *	US-PATENT-CLASS-343-16	c 10	N71-21483 *	US-PATENT-CLASS-343-700MS	c 32	N80-32604 *
US-PATENT-CLASS-340-978	c 06	N84-27733 *	US-PATENT-CLASS-343-17.1PF	c 32	N82-23376 *	US-PATENT-CLASS-343-700MS	c 32	N82-11336 *
US-PATENT-CLASS-340-97	c 21	N73-13643 *	US-PATENT-CLASS-343-17.2-PC	c 32	N85-34327 *	US-PATENT-CLASS-343-703	c 09	N71-13521 *
US-PATENT-CLASS-340-980	c 06	N84-27733 *	US-PATENT-CLASS-343-17.2PC	c 35	N79-10391 *	US-PATENT-CLASS-343-703	c 07	N71-24614 *
US-PATENT-CLASS-340-988	c 35	N84-33769 *	US-PATENT-CLASS-343-17.2	c 07	N70-36911 *	US-PATENT-CLASS-343-705	c 07	N70-38200 *
US-PATENT-CLASS-342-125	c 32	N88-26568 *	US-PATENT-CLASS-343-17.5	c 14	N73-25461 *	US-PATENT-CLASS-343-705	c 07	N70-40202 *
US-PATENT-CLASS-342-127	c 32	N88-26568 *	US-PATENT-CLASS-343-17.5	c 32	N75-15854 *	US-PATENT-CLASS-343-705	c 31	N71-10747 *
US-PATENT-CLASS-342-195	c 33	N89-14384 *	US-PATENT-CLASS-343-17.5	c 32	N84-22820 *	US-PATENT-CLASS-343-705	c 03	N76-32140 *
US-PATENT-CLASS-342-374	c 32	N89-11961 *	US-PATENT-CLASS-343-17.7	c 07	N71-12391 *	US-PATENT-CLASS-343-706	c 07	N72-21117 *
US-PATENT-CLASS-342-375	c 32	N89-11961 *	US-PATENT-CLASS-343-17.7	c 44	N74-19870 *	US-PATENT-CLASS-343-708	c 09	N71-22888 *
US-PATENT-CLASS-342-43	c 32	N88-26568 *	US-PATENT-CLASS-343-17.7	c 32	N77-31350 *	US-PATENT-CLASS-343-708	c 07	N71-22984 *
US-PATENT-CLASS-342-51	c 32	N88-26568 *	US-PATENT-CLASS-343-17.7	c 32	N79-11265 *	US-PATENT-CLASS-343-708	c 07	N71-28980 *
US-PATENT-CLASS-343-DIG.2	c 07	N73-24176 *	US-PATENT-CLASS-343-17.7	c 32	N84-27951 *	US-PATENT-CLASS-343-708	c 09	N72-25247 *
US-PATENT-CLASS-343-DIG.2	c 33	N74-20860 *	US-PATENT-CLASS-343-17.7	c 33	N85-21493 *	US-PATENT-CLASS-343-708	c 32	N74-20864 *
US-PATENT-CLASS-343-DIG.2	c 37	N86-25791 *	US-PATENT-CLASS-343-176	c 07	N71-27056 *	US-PATENT-CLASS-343-708	c 32	N82-11336 *
US-PATENT-CLASS-343-DIG.3	c 09	N72-12136 *	US-PATENT-CLASS-343-176	c 32	N76-14321 *	US-PATENT-CLASS-343-718	c 09	N71-18720 *
US-PATENT-CLASS-343-DIG2	c 07	N83-20944 *	US-PATENT-CLASS-343-179	c 07	N72-11149 *	US-PATENT-CLASS-343-720	c 09	N72-12136 *
US-PATENT-CLASS-343-100AP	c 33	N83-36355 *	US-PATENT-CLASS-343-179	c 07	N73-20174 *	US-PATENT-CLASS-343-725	c 07	N73-28013 *
US-PATENT-CLASS-343-100CL	c 32	N77-32342 *	US-PATENT-CLASS-343-179	c 32	N78-15323 *	US-PATENT-CLASS-343-727	c 32	N81-14187 *
US-PATENT-CLASS-343-100CL	c 32	N79-14268 *	US-PATENT-CLASS-343-179	c 32	N79-20296 *	US-PATENT-CLASS-343-727	c 32	N82-11336 *
US-PATENT-CLASS-343-100CL	c 32	N81-29308 *	US-PATENT-CLASS-343-18A	c 32	N80-14281 *	US-PATENT-CLASS-343-729	c 07	N73-28013 *
US-PATENT-CLASS-343-100CL	c 32	N83-18975 *	US-PATENT-CLASS-343-18B	c 32	N74-12912 *	US-PATENT-CLASS-343-730	c 32	N74-20863 *
US-PATENT-CLASS-343-100CL	c 32	N83-19968 *	US-PATENT-CLASS-343-18B	c 32	N77-21267 *	US-PATENT-CLASS-343-754	c 09	N73-19234 *
US-PATENT-CLASS-343-100ME	c 14	N72-28437 *	US-PATENT-CLASS-343-18B	c 43	N80-18498 *	US-PATENT-CLASS-343-755	c 33	N76-27472 *
US-PATENT-CLASS-343-100ME	c 14	N73-26432 *	US-PATENT-CLASS-343-18D	c 43	N80-18498 *	US-PATENT-CLASS-343-755	c 32	N81-25278 *
US-PATENT-CLASS-343-100ME	c 46	N80-14603 *	US-PATENT-CLASS-343-18	c 31	N70-37981 *	US-PATENT-CLASS-343-761	c 33	N75-19516 *
US-PATENT-CLASS-343-100ME	c 35	N80-18359 *	US-PATENT-CLASS-343-18	c 07	N70-40063 *	US-PATENT-CLASS-343-761	c 32	N76-21365 *
US-PATENT-CLASS-343-100ME	c 46	N82-12685 *	US-PATENT-CLASS-343-18	c 30	N70-40309 *	US-PATENT-CLASS-343-762	c 07	N72-25174 *
US-PATENT-CLASS-343-100ME	c 06	N83-10040 *	US-PATENT-CLASS-343-18	c 07	N70-41678 *	US-PATENT-CLASS-343-768	c 10	N71-26142 *
US-PATENT-CLASS-343-100PE	c 32	N75-24982 *	US-PATENT-CLASS-343-200	c 07	N73-16121 *	US-PATENT-CLASS-343-769	c 32	N74-20864 *
US-PATENT-CLASS-343-100PE	c 33	N81-26358 *	US-PATENT-CLASS-343-204	c 07	N73-26118 *	US-PATENT-CLASS-343-770	c 09	N72-31235 *
US-PATENT-CLASS-343-100PE	c 46	N82-12685 *	US-PATENT-CLASS-343-225	c 17	N78-17140 *	US-PATENT-CLASS-343-770	c 33	N76-14372 *
US-PATENT-CLASS-343-100PE	c 35	N82-15381 *	US-PATENT-CLASS-343-352	c 43	N85-21723 *	US-PATENT-CLASS-343-771	c 07	N71-28809 *
US-PATENT-CLASS-343-100R	c 10	N73-16206 *	US-PATENT-CLASS-343-352	c 46	N85-21846 *	US-PATENT-CLASS-343-771	c 07	N72-11148 *
US-PATENT-CLASS-343-100R	c 33	N80-18287 *	US-PATENT-CLASS-343-356	c 04	N84-22546 *	US-PATENT-CLASS-343-771	c 09	N72-21244 *
US-PATENT-CLASS-343-100SA	c 10	N73-16206 *	US-PATENT-CLASS-343-357	c 04	N84-22546 *	US-PATENT-CLASS-343-771	c 07	N72-22127 *
US-PATENT-CLASS-343-100SA	c 33	N74-20860 *	US-PATENT-CLASS-343-357	c 04	N86-27270 *	US-PATENT-CLASS-343-771	c 09	N72-25247 *
US-PATENT-CLASS-343-100SA	c 17	N76-21250 *	US-PATENT-CLASS-343-376	c 33	N85-21493 *	US-PATENT-CLASS-343-771	c 09	N72-31235 *
US-PATENT-CLASS-343-100SA	c 32	N80-28578 *	US-PATENT-CLASS-343-418	c 04	N86-27270 *	US-PATENT-CLASS-343-772	c 07	N72-20141 *
US-PATENT-CLASS-343-100ST	c 07	N72-21118 *	US-PATENT-CLASS-343-460	c 46	N85-21846 *	US-PATENT-CLASS-343-772	c 32	N81-25278 *
US-PATENT-CLASS-343-100ST	c 33	N74-20860 *	US-PATENT-CLASS-343-5-CD	c 43	N86-19711 *	US-PATENT-CLASS-343-773	c 07	N72-20141 *
US-PATENT-CLASS-343-100ST	c 32	N75-15854 *	US-PATENT-CLASS-343-5-CM	c 32	N84-34651 *	US-PATENT-CLASS-343-776	c 07	N71-12396 *
US-PATENT-CLASS-343-100ST	c 17	N76-21250 *	US-PATENT-CLASS-343-5-CM	c 32	N85-34327 *	US-PATENT-CLASS-343-777	c 07	N71-27233 *
US-PATENT-CLASS-343-100ST	c 32	N77-20289 *	US-PATENT-CLASS-343-5-CM	c 43	N86-19711 *	US-PATENT-CLASS-343-777	c 07	N72-25174 *
US-PATENT-CLASS-343-100ST	c 33	N80-18287 *	US-PATENT-CLASS-343-5-DP	c 32	N84-34651 *	US-PATENT-CLASS-343-777	c 32	N89-11961 *
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US-PATENT-CLASS-343-100TD	c 32	N81-14185 *	US-PATENT-CLASS-343-5-VQ	c 43	N86-19711 *	US-PATENT-CLASS-343-779	c 07	N71-11285 *
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US-PATENT-CLASS-350-342	c 76	N85-33826 *	US-PATENT-CLASS-356-106	c 35	N74-15146 *	US-PATENT-CLASS-356-236	c 74	N86-26190 *
US-PATENT-CLASS-350-342	c 74	N89-14078 *	US-PATENT-CLASS-356-107	c 16	N71-24170 *	US-PATENT-CLASS-356-237	c 74	N77-10899 *
US-PATENT-CLASS-350-353	c 74	N83-19597 *	US-PATENT-CLASS-356-108	c 26	N73-26751 *	US-PATENT-CLASS-356-237	c 38	N78-17395 *
US-PATENT-CLASS-350-354	c 32	N86-20647 *	US-PATENT-CLASS-356-108	c 16	N73-30476 *	US-PATENT-CLASS-356-237	c 38	N78-17396 *
US-PATENT-CLASS-350-354	c 74	N89-14077 *	US-PATENT-CLASS-356-109	c 16	N73-30476 *	US-PATENT-CLASS-356-237	c 35	N79-28527 *
US-PATENT-CLASS-350-358	c 36	N82-29589 *	US-PATENT-CLASS-356-110	c 14	N73-25463 *	US-PATENT-CLASS-356-239	c 74	N77-10899 *
US-PATENT-CLASS-350-359	c 36	N80-16321 *	US-PATENT-CLASS-356-110	c 35	N78-18391 *	US-PATENT-CLASS-356-241	c 14	N72-32452 *
US-PATENT-CLASS-350-35	c 14	N72-22441 *	US-PATENT-CLASS-356-112	c 72	N74-19310 *	US-PATENT-CLASS-356-243	c 36	N80-16321 *
US-PATENT-CLASS-350-36	c 14	N72-22441 *	US-PATENT-CLASS-356-113	c 14	N72-17323 *	US-PATENT-CLASS-356-244	c 14	N72-17323 *
US-PATENT-CLASS-350-370	c 35	N81-33448 *	US-PATENT-CLASS-356-113	c 35	N74-23040 *	US-PATENT-CLASS-356-244	c 35	N76-31490 *
US-PATENT-CLASS-350-443	c 74	N84-23248 *	US-PATENT-CLASS-356-114	c 14	N73-12446 *	US-PATENT-CLASS-356-244	c 35	N80-28687 *
US-PATENT-CLASS-350-445	c 74	N83-36898 *	US-PATENT-CLASS-356-114	c 35	N76-31490 *	US-PATENT-CLASS-356-244	c 74	N86-26190 *
US-PATENT-CLASS-350-448	c 74	N86-20125 *	US-PATENT-CLASS-356-117	c 23	N71-16101 *	US-PATENT-CLASS-356-246	c 35	N74-27860 *
US-PATENT-CLASS-350-453	c 36	N82-32712 *	US-PATENT-CLASS-356-120	c 74	N78-27904 *	US-PATENT-CLASS-356-246	c 74	N78-17867 *
US-PATENT-CLASS-350-486	c 74	N83-13978 *	US-PATENT-CLASS-356-123	c 74	N76-19935 *	US-PATENT-CLASS-356-246	c 74	N87-14971 *
US-PATENT-CLASS-350-49	c 14	N72-22441 *	US-PATENT-CLASS-356-124	c 74	N76-19935 *	US-PATENT-CLASS-356-248	c 14	N72-22444 *
US-PATENT-CLASS-350-505	c 74	N85-23396 *	US-PATENT-CLASS-356-124	c 74	N79-11865 *	US-PATENT-CLASS-356-256	c 36	N87-28006 *
US-PATENT-CLASS-350-505	c 74	N86-28732 *	US-PATENT-CLASS-356-128	c 76	N87-25862 *	US-PATENT-CLASS-356-28.5	c 32	N80-24510 *
US-PATENT-CLASS-350-52	c 14	N72-22441 *	US-PATENT-CLASS-356-129	c 74	N79-20856 *	US-PATENT-CLASS-356-28.5	c 36	N81-24422 *
US-PATENT-CLASS-350-52	c 14	N72-22444 *	US-PATENT-CLASS-356-129	c 76	N87-25862 *	US-PATENT-CLASS-356-28.5	c 36	N82-32712 *
US-PATENT-CLASS-350-537	c 74	N86-20125 *	US-PATENT-CLASS-356-138	c 14	N72-20379 *	US-PATENT-CLASS-356-28.5	c 35	N86-32697 *
US-PATENT-CLASS-350-55	c 23	N71-33229 *	US-PATENT-CLASS-356-138	c 16	N73-33397 *	US-PATENT-CLASS-356-28.5	c 35	N87-14669 *
US-PATENT-CLASS-350-55	c 14	N73-30393 *	US-PATENT-CLASS-356-141	c 14	N72-27409 *	US-PATENT-CLASS-356-28.5	c 36	N87-17026 *
US-PATENT-CLASS-350-55	c 23	N73-30666 *	US-PATENT-CLASS-356-141	c 14	N73-28490 *	US-PATENT-CLASS-356-28.5	c 36	N88-14350 *
US-PATENT-CLASS-350-55	c 89	N79-10969 *	US-PATENT-CLASS-356-141	c 36	N74-21091 *	US-PATENT-CLASS-356-28.5	c 33	N89-14384 *
US-PATENT-CLASS-350-55	c 74	N80-33210 *	US-PATENT-CLASS-356-141	c 89	N74-30886 *	US-PATENT-CLASS-356-28.5	c 33	N89-14385 *
US-PATENT-CLASS-350-572	c 36	N88-14350 *	US-PATENT-CLASS-356-141	c 74	N77-22951 *	US-PATENT-CLASS-356-28	c 21	N71-19212 *
US-PATENT-CLASS-350-573	c 36	N88-14350 *	US-PATENT-CLASS-356-147	c 89	N74-30886 *	US-PATENT-CLASS-356-28	c 16	N71-24828 *
US-PATENT-CLASS-350-580	c 74	N86-20125 *	US-PATENT-CLASS-356-148	c 16	N73-33397 *	US-PATENT-CLASS-356-28	c 72	N74-19310 *
US-PATENT-CLASS-350-58	c 14	N71-15604 *	US-PATENT-CLASS-356-150	c 15	N71-28740 *	US-PATENT-CLASS-356-28	c 36	N75-15028 *
US-PATENT-CLASS-350-6.5	c 32	N80-24510 *	US-PATENT-CLASS-356-150	c 74	N80-21138 *	US-PATENT-CLASS-356-28	c 35	N75-16783 *
US-PATENT-CLASS-350-6.5	c 74	N87-21679 *	US-PATENT-CLASS-356-152	c 15	N71-28740 *	US-PATENT-CLASS-356-28	c 36	N76-14447 *
US-PATENT-CLASS-350-6.6	c 32	N80-24510 *	US-PATENT-CLASS-356-152	c 16	N72-13437 *	US-PATENT-CLASS-356-28	c 36	N77-25501 *
US-PATENT-CLASS-350-619	c 74	N85-23396 *	US-PATENT-CLASS-356-152	c 14	N72-20379 *	US-PATENT-CLASS-356-28	c 74	N78-17866 *
US-PATENT-CLASS-350-6	c 14	N69-27461 *	US-PATENT-CLASS-356-152	c 14	N72-27409 *	US-PATENT-CLASS-356-28	c 35	N79-18296 *
US-PATENT-CLASS-350-6	c 36	N74-15145 *	US-PATENT-CLASS-356-152	c 14	N73-25462 *	US-PATENT-CLASS-356-28	c 36	N80-16321 *
US-PATENT-CLASS-350-79	c 14	N72-32452 *	US-PATENT-CLASS-356-152	c 36	N74-15145 *	US-PATENT-CLASS-356-28	c 36	N87-17026 *
US-PATENT-CLASS-350-7	c 74	N74-15095 *	US-PATENT-CLASS-356-152	c 36	N74-21091 *	US-PATENT-CLASS-356-300	c 43	N79-17288 *
US-PATENT-CLASS-350-86	c 14	N72-22445 *	US-PATENT-CLASS-356-152	c 74	N74-21304 *	US-PATENT-CLASS-356-301	c 35	N87-14669 *
US-PATENT-CLASS-350-96.10	c 74	N84-11921 *	US-PATENT-CLASS-356-152	c 74	N77-22951 *	US-PATENT-CLASS-356-311	c 35	N86-25753 *
US-PATENT-CLASS-350-96.15	c 74	N84-11921 *	US-PATENT-CLASS-356-152	c 74	N80-21138 *	US-PATENT-CLASS-356-318	c 35	N86-25753 *
US-PATENT-CLASS-350-96.15	c 74	N85-29749 *	US-PATENT-CLASS-356-152	c 37	N81-27519 *	US-PATENT-CLASS-356-323	c 74	N85-23396 *
US-PATENT-CLASS-350-96.16	c 74	N83-29032 *	US-PATENT-CLASS-356-153	c 15	N71-28740 *	US-PATENT-CLASS-356-328	c 35	N80-28635 *
US-PATENT-CLASS-350-96.25	c 33	N81-29342 *	US-PATENT-CLASS-356-153	c 23	N71-29125 *	US-PATENT-CLASS-356-32	c 14	N72-11364 *
US-PATENT-CLASS-350-96R	c 60	N77-14751 *	US-PATENT-CLASS-356-153	c 16	N73-33397 *	US-PATENT-CLASS-356-32	c 32	N73-20740 *
US-PATENT-CLASS-350-96R	c 60	N77-32731 *	US-PATENT-CLASS-356-153	c 18	N76-14186 *	US-PATENT-CLASS-356-32	c 39	N81-25400 *
US-PATENT-CLASS-350-96R	c 60	N78-10709 *	US-PATENT-CLASS-356-154	c 15	N71-26673 *	US-PATENT-CLASS-356-330	c 74	N85-23396 *
US-PATENT-CLASS-350-96WG	c 36	N75-31427 *	US-PATENT-CLASS-356-159	c 36	N78-14380 *	US-PATENT-CLASS-356-331	c 74	N85-23396 *
US-PATENT-CLASS-350-96WG	c 36	N76-18428 *	US-PATENT-CLASS-356-160	c 36	N78-14380 *	US-PATENT-CLASS-356-334	c 74	N80-21140 *
US-PATENT-CLASS-350-96WG	c 36	N76-24553 *	US-PATENT-CLASS-356-161	c 26	N73-26751 *	US-PATENT-CLASS-356-345	c 74	N81-17888 *
US-PATENT-CLASS-350-96	c 07	N71-26291 *	US-PATENT-CLASS-356-162	c 66	N76-19888 *	US-PATENT-CLASS-356-345	c 74	N81-29963 *
US-PATENT-CLASS-351-166	c 74	N78-32854 *	US-PATENT-CLASS-356-165	c 38	N78-17396 *	US-PATENT-CLASS-356-345	c 36	N84-14509 *
US-PATENT-CLASS-351-203	c 52	N89-16256 *	US-PATENT-CLASS-356-166	c 14	N71-23175 *	US-PATENT-CLASS-356-345	c 74	N86-21348 *
US-PATENT-CLASS-351-206	c 52	N87-24874 *	US-PATENT-CLASS-356-167	c 14	N72-11364 *	US-PATENT-CLASS-356-346	c 35	N80-20563 *
US-PATENT-CLASS-351-208	c 52	N87-24874 *	US-PATENT-CLASS-356-167	c 66	N76-19888 *	US-PATENT-CLASS-356-346	c 74	N81-29963 *
US-PATENT-CLASS-351-237	c 52	N89-16256 *	US-PATENT-CLASS-356-167	c 74	N78-27904 *	US-PATENT-CLASS-356-347	c 35	N84-22929 *
US-PATENT-CLASS-351-23	c 05	N73-26072 *	US-PATENT-CLASS-356-169	c 60	N78-10709 *	US-PATENT-CLASS-356-349	c 36	N82-16396 *
US-PATENT-CLASS-351-23	c 52	N76-30793 *	US-PATENT-CLASS-356-171	c 74	N77-22950 *	US-PATENT-CLASS-356-350	c 35	N81-33448 *
US-PATENT-CLASS-351-30	c 05	N73-26072 *	US-PATENT-CLASS-356-172	c 16	N73-33397 *	US-PATENT-CLASS-356-350	c 74	N87-23259 *
US-PATENT-CLASS-351-30	c 52	N76-30793 *	US-PATENT-CLASS-356-172	c 36	N74-21091 *	US-PATENT-CLASS-356-351	c 35	N81-33448 *
US-PATENT-CLASS-351-36	c 05	N73-26072 *	US-PATENT-CLASS-356-172	c 74	N77-22951 *	US-PATENT-CLASS-356-351	c 35	N85-30282 *
US-PATENT-CLASS-351-36	c 52	N76-30793 *	US-PATENT-CLASS-356-172	c 14	N72-21409 *	US-PATENT-CLASS-356-352	c 74	N81-17888 *
US-PATENT-CLASS-351-38	c 54	N75-27759 *	US-PATENT-CLASS-356-180	c 35	N74-27860 *	US-PATENT-CLASS-356-353	c 74	N83-32577 *
US-PATENT-CLASS-352-169	c 14	N73-14427 *	US-PATENT-CLASS-356-186	c 35	N75-19613 *	US-PATENT-CLASS-356-356	c 36	N81-24422 *
US-PATENT-CLASS-352-171	c 35	N82-26628 *	US-PATENT-CLASS-356-188	c 35	N84-33766 *	US-PATENT-CLASS-356-357	c 74	N83-21949 *
US-PATENT-CLASS-352-84	c 16	N71-33410 *	US-PATENT-CLASS-356-189	c 35	N75-19613 *	US-PATENT-CLASS-356-358	c 74	N81-17888 *
US-PATENT-CLASS-352-84	c 14	N72-18411 *	US-PATENT-CLASS-356-189	c 35	N84-33766 *	US-PATENT-CLASS-356-358	c 36	N81-24422 *
US-PATENT-CLASS-353-54	c 34	N74-23066 *	US-PATENT-CLASS-356-18	c 14	N72-21409 *	US-PATENT-CLASS-356-358	c 35	N85-30282 *
US-PATENT-CLASS-353-61	c 34	N74-23066 *	US-PATENT-CLASS-356-197	c 37	N74-18123 *	US-PATENT-CLASS-356-363	c 74	N83-32577 *
US-PATENT-CLASS-354-118	c 74	N81-17886 *	US-PATENT-CLASS-356-199	c 36	N78-14380 *	US-PATENT-CLASS-356-369	c 35	N80-28687 *
US-PATENT-CLASS-354-217	c 35	N82-26628 *	US-PATENT-CLASS-356-1	c 36	N83-34304 *	US-PATENT-CLASS-356-36	c 23	N71-16365 *
US-PATENT-CLASS-354-234	c 33	N74-20861 *	US-PATENT-CLASS-356-1	c 36	N88-24958 *	US-PATENT-CLASS-356-376	c 36	N88-24958 *
US-PATENT-CLASS-354-234	c 70	N74-21300 *	US-PATENT-CLASS-356-201	c 75	N74-30156 *	US-PATENT-CLASS-356-37	c 45	N76-21742 *
US-PATENT-CLASS-354-289	c 35	N82-26628 *	US-PATENT-CLASS-356-201	c 35	N77-14411 *	US-PATENT-CLASS-356-386	c 36	N82-16396 *
US-PATENT-CLASS-354-479	c 74	N86-28732 *	US-PATENT-CLASS-356-202	c 26	N73-26751 *	US-PATENT-CLASS-356-389	c 33	N87-14594 *
US-PATENT-CLASS-354-62	c 52	N87-24874 *	US-PATENT-CLASS-356-203	c 14	N71-26788 *	US-PATENT-CLASS-356-394	c 33	N83-18996 *
US-PATENT-CLASS-354-77	c 74	N79-20856 *	US-PATENT-CLASS-356-204	c 35	N77-14411 *	US-PATENT-CLASS-356-4.5	c 74	N86-21348 *
US-PATENT-CLASS-355-18	c 14	N73-33361 *	US-PATENT-CLASS-356-204	c 74	N78-17867 *	US-PATENT-CLASS-356-4.5	c 74	N86-32266 *
US-PATENT-CLASS-356-103	c 14	N71-28994 *	US-PATENT-CLASS-356-207	c 45	N76-17656 *	US-PATENT-CLASS-356-402	c 74	N86-29650 *
US-PATENT-CLASS-356-103	c 36	N75-15028 *	US-PATENT-CLASS-356-208	c 74	N78-33913 *	US-PATENT-CLASS-356-404	c 35	N79-28527 *
US-PATENT-CLASS-356-103	c 74	N78-13874 *	US-PATENT-CLASS-356-209	c 23	N71-16341 *	US-PATENT-CLASS-356-406	c 52	N81-27783 *
US-PATENT-CLASS-356-104	c 16	N71-24074 *	US-PATENT-CLASS-356-209	c 14	N71-28993 *	US-PATENT-CLASS-356-407	c 43	N79-17288 *
US-PATENT-CLASS-356-104	c 74	N78-13874 *	US-PATENT-CLASS-356-209	c 14	N72-17323 *	US-PATENT-CLASS-356-407	c 52	N81-27783 *
US-PATENT-CLASS-356-106LR	c 36	N75-19653 *	US-PATENT-CLASS-356-209	c 35	N76-31490 *	US-PATENT-CLASS-356-409	c 36	N87-28006 *
US-PATENT-CLASS-356-106R	c 72	N74-19310 *	US-PATENT-CLASS-356-210	c 74	N79-11865 *	US-PATENT-CLASS-356-416	c 43	N79-17288 *
US-PATENT-CLASS-356-106R	c 36	N76-14447 *	US-PATENT-CLASS-356-212	c 35	N77-31465 *	US-PATENT-CLASS-356-416	c 52	N81-27783 *
US-PATENT-CLASS-356-106R	c 35	N77-10493 *	US-PATENT-CLASS-356-213	c 39	N81-25400 *	US-PATENT-CLASS-356-419	c 74	N86-29650 *
US-PATENT-CLASS-356-106R	c 47	N77-10753 *	US-PATENT-CLASS-356-216	c 74	N74-15095 *	US-PATENT-CLASS-356-432	c 74	N81-17887 *
US-PATENT-CLASS-356-106S	c 23	N73-13661 *	US-PATENT-CLASS-356-216	c 35	N80-18359 *	US-PATENT-CLASS-356-432	c 25	N81-25159 *
US-PATENT-CLASS-356-106S	c 35	N76-31490 *	US-PATENT-CLASS-356-216	c 39	N81-25400 *	US-PATENT-CLASS-356-434	c 35	N84-34705 *
US-PATENT-CLASS-356-106S	c 35	N78-18391 *	US-PATENT-CLASS-356-216	c 35	N84-22931 *	US-PATENT-CLASS-356-437	c 25	N81-14015 *
US-PATENT-CLASS-356-106S	c 35	N74-23040 *	US-PATENT-CLASS-356-222	c 03	N72-20033 *	US-PATENT-CLASS-356-43	c 74	N74-15095 *
US-PATENT-CLASS-356-106	c 14	N71-17627 *	US-PATENT-CLASS-356-222	c 47	N83-32232 *	US-PATENT-CLASS-356-43	c 75	N74-30156 *
US-PATENT-CLASS-356-106	c 14	N71-17655 *	US-PATENT-CLASS-356-234	c 39	N81-25400 *	US-PATENT-CLASS-356-43	c 36	N85-21639 *
US-PATENT-CLASS-356-106	c 14	N71-27215 *	US-PATENT-CLASS-356-234	c 35	N84-22931 *	US-PATENT-CLASS-356-446	c 74	N86-26190 *

US-PATENT-CLASS-356-45	c 36	N85-21639 *	US-PATENT-CLASS-357-46	c 36	N85-30305 *	US-PATENT-CLASS-361-100	c 33	N83-34190 *
US-PATENT-CLASS-356-4	c 14	N72-17326 *	US-PATENT-CLASS-357-4	c 33	N78-13320 *	US-PATENT-CLASS-361-141	c 33	N82-11357 *
US-PATENT-CLASS-356-4	c 07	N73-26119 *	US-PATENT-CLASS-357-4	c 36	N85-30922 *	US-PATENT-CLASS-361-170	c 33	N79-28415 *
US-PATENT-CLASS-356-4	c 36	N74-15145 *	US-PATENT-CLASS-357-50	c 76	N85-30922 *	US-PATENT-CLASS-361-218	c 03	N88-14083 *
US-PATENT-CLASS-356-4	c 35	N75-15014 *	US-PATENT-CLASS-357-52	c 76	N75-25730 *	US-PATENT-CLASS-361-222	c 03	N88-14083 *
US-PATENT-CLASS-356-4	c 36	N83-34304 *	US-PATENT-CLASS-357-52	c 44	N80-29835 *	US-PATENT-CLASS-361-226	c 28	N82-18401 *
US-PATENT-CLASS-356-4	c 36	N88-24958 *	US-PATENT-CLASS-357-52	c 76	N87-13313 *	US-PATENT-CLASS-361-230	c 28	N82-18401 *
US-PATENT-CLASS-356-51	c 06	N72-31141 *	US-PATENT-CLASS-357-54	c 76	N75-25730 *	US-PATENT-CLASS-361-283	c 33	N82-26572 *
US-PATENT-CLASS-356-51	c 35	N75-30502 *	US-PATENT-CLASS-357-55	c 33	N79-12321 *	US-PATENT-CLASS-361-334	c 35	N81-26431 *
US-PATENT-CLASS-356-51	c 35	N83-21311 *	US-PATENT-CLASS-357-55	c 33	N81-26360 *	US-PATENT-CLASS-361-395	c 32	N78-24391 *
US-PATENT-CLASS-356-51	c 35	N84-34705 *	US-PATENT-CLASS-357-56	c 33	N88-14271 *	US-PATENT-CLASS-361-56	c 33	N81-27397 *
US-PATENT-CLASS-356-51	c 36	N87-28006 *	US-PATENT-CLASS-357-58	c 33	N86-19516 *	US-PATENT-CLASS-361-91	c 33	N81-27397 *
US-PATENT-CLASS-356-5	c 07	N73-26119 *	US-PATENT-CLASS-357-59	c 44	N76-28635 *	US-PATENT-CLASS-362-11	c 74	N81-17886 *
US-PATENT-CLASS-356-5	c 36	N74-15145 *	US-PATENT-CLASS-357-59	c 44	N78-24609 *	US-PATENT-CLASS-362-241	c 74	N81-17886 *
US-PATENT-CLASS-356-5	c 36	N75-15028 *	US-PATENT-CLASS-357-59	c 44	N81-19558 *	US-PATENT-CLASS-362-269	c 17	N78-17140 *
US-PATENT-CLASS-356-5	c 32	N82-23376 *	US-PATENT-CLASS-357-59	c 33	N86-19516 *	US-PATENT-CLASS-363-100	c 33	N85-29147 *
US-PATENT-CLASS-356-5	c 74	N85-34629 *	US-PATENT-CLASS-357-5	c 33	N75-31332 *	US-PATENT-CLASS-363-101	c 33	N78-32341 *
US-PATENT-CLASS-356-5	c 74	N86-32266 *	US-PATENT-CLASS-357-5	c 33	N78-13320 *	US-PATENT-CLASS-363-101	c 33	N81-19392 *
US-PATENT-CLASS-356-5	c 32	N87-14559 *	US-PATENT-CLASS-357-60	c 33	N81-26360 *	US-PATENT-CLASS-363-132	c 33	N82-18494 *
US-PATENT-CLASS-356-71	c 66	N76-19888 *	US-PATENT-CLASS-357-61	c 33	N88-14271 *	US-PATENT-CLASS-363-134	c 33	N79-24257 *
US-PATENT-CLASS-356-72	c 14	N71-23268 *	US-PATENT-CLASS-357-63	c 33	N76-31409 *	US-PATENT-CLASS-363-147	c 44	N81-12542 *
US-PATENT-CLASS-356-72	c 33	N73-27796 *	US-PATENT-CLASS-357-63	c 44	N81-19558 *	US-PATENT-CLASS-363-16	c 33	N78-32341 *
US-PATENT-CLASS-356-72	c 38	N78-32447 *	US-PATENT-CLASS-357-63	c 44	N82-26777 *	US-PATENT-CLASS-363-17	c 33	N82-18494 *
US-PATENT-CLASS-356-72	c 74	N80-33210 *	US-PATENT-CLASS-357-65	c 44	N78-25527 *	US-PATENT-CLASS-363-19	c 33	N85-29147 *
US-PATENT-CLASS-356-72	c 35	N86-32697 *	US-PATENT-CLASS-357-65	c 44	N79-11467 *	US-PATENT-CLASS-363-21	c 33	N81-19392 *
US-PATENT-CLASS-356-73	c 75	N74-30156 *	US-PATENT-CLASS-357-65	c 44	N79-31752 *	US-PATENT-CLASS-363-21	c 33	N81-19393 *
US-PATENT-CLASS-356-73	c 38	N78-32447 *	US-PATENT-CLASS-357-65	c 33	N88-14271 *	US-PATENT-CLASS-363-22	c 33	N84-33663 *
US-PATENT-CLASS-356-73	c 35	N84-33766 *	US-PATENT-CLASS-357-67	c 44	N78-25527 *	US-PATENT-CLASS-363-23	c 33	N85-29147 *
US-PATENT-CLASS-356-73	c 09	N86-32447 *	US-PATENT-CLASS-357-67	c 44	N79-11467 *	US-PATENT-CLASS-363-24	c 33	N81-33404 *
US-PATENT-CLASS-356-73	c 35	N86-32697 *	US-PATENT-CLASS-357-67	c 44	N79-31752 *	US-PATENT-CLASS-363-25	c 33	N84-16453 *
US-PATENT-CLASS-356-74	c 30	N71-15990 *	US-PATENT-CLASS-357-72	c 33	N88-23941 *	US-PATENT-CLASS-363-27	c 44	N81-12542 *
US-PATENT-CLASS-356-74	c 35	N84-33766 *	US-PATENT-CLASS-357-73	c 33	N78-13320 *	US-PATENT-CLASS-363-36	c 33	N81-19393 *
US-PATENT-CLASS-356-76	c 23	N71-26206 *	US-PATENT-CLASS-357-74	c 37	N79-28549 *	US-PATENT-CLASS-363-40	c 33	N81-19393 *
US-PATENT-CLASS-356-76	c 14	N71-29041 *	US-PATENT-CLASS-357-74	c 33	N88-23941 *	US-PATENT-CLASS-363-47	c 33	N81-19393 *
US-PATENT-CLASS-356-83	c 35	N75-19613 *	US-PATENT-CLASS-357-79	c 37	N79-28549 *	US-PATENT-CLASS-363-49	c 33	N84-33663 *
US-PATENT-CLASS-356-85	c 37	N74-18123 *	US-PATENT-CLASS-357-7	c 33	N75-31331 *	US-PATENT-CLASS-363-53	c 33	N77-30365 *
US-PATENT-CLASS-356-85	c 75	N74-30156 *	US-PATENT-CLASS-357-81	c 37	N79-28549 *	US-PATENT-CLASS-363-54	c 33	N83-34190 *
US-PATENT-CLASS-356-87	c 75	N74-30156 *	US-PATENT-CLASS-357-81	c 33	N88-23941 *	US-PATENT-CLASS-363-56	c 33	N79-24254 *
US-PATENT-CLASS-356-96	c 35	N75-19613 *	US-PATENT-CLASS-357-82	c 37	N79-28549 *	US-PATENT-CLASS-363-56	c 33	N81-14220 *
US-PATENT-CLASS-356-97	c 35	N77-14411 *	US-PATENT-CLASS-357-83	c 37	N79-28549 *	US-PATENT-CLASS-363-56	c 33	N81-33404 *
US-PATENT-CLASS-357-12	c 33	N85-21492 *	US-PATENT-CLASS-357-91	c 76	N75-25730 *	US-PATENT-CLASS-363-57	c 33	N78-10377 *
US-PATENT-CLASS-357-15	c 44	N78-13526 *	US-PATENT-CLASS-357-91	c 33	N78-27326 *	US-PATENT-CLASS-363-60	c 33	N78-32341 *
US-PATENT-CLASS-357-15	c 44	N79-11467 *	US-PATENT-CLASS-357-91	c 44	N80-29835 *	US-PATENT-CLASS-363-60	c 44	N81-12542 *
US-PATENT-CLASS-357-15	c 44	N81-29525 *	US-PATENT-CLASS-357-91	c 33	N81-26360 *	US-PATENT-CLASS-363-61	c 33	N82-18494 *
US-PATENT-CLASS-357-15	c 76	N86-20150 *	US-PATENT-CLASS-358-101	c 44	N86-32875 *	US-PATENT-CLASS-363-61	c 33	N85-29147 *
US-PATENT-CLASS-357-16	c 44	N78-13526 *	US-PATENT-CLASS-358-104	c 37	N86-21850 *	US-PATENT-CLASS-363-65	c 33	N84-16453 *
US-PATENT-CLASS-357-17	c 44	N79-11467 *	US-PATENT-CLASS-358-104	c 09	N78-18083 *	US-PATENT-CLASS-363-67	c 33	N84-16453 *
US-PATENT-CLASS-357-17	c 36	N85-30305 *	US-PATENT-CLASS-358-104	c 74	N79-13855 *	US-PATENT-CLASS-363-70	c 33	N77-30365 *
US-PATENT-CLASS-357-22	c 33	N79-11314 *	US-PATENT-CLASS-358-105	c 36	N83-34304 *	US-PATENT-CLASS-363-71	c 33	N79-24254 *
US-PATENT-CLASS-357-22	c 33	N79-12321 *	US-PATENT-CLASS-358-105	c 39	N83-20280 *	US-PATENT-CLASS-363-71	c 33	N79-24257 *
US-PATENT-CLASS-357-23.12	c 76	N87-13313 *	US-PATENT-CLASS-358-105	c 74	N86-21348 *	US-PATENT-CLASS-363-71	c 33	N81-14220 *
US-PATENT-CLASS-357-23.1	c 76	N87-13313 *	US-PATENT-CLASS-358-105	c 17	N87-25348 *	US-PATENT-CLASS-363-71	c 33	N84-16453 *
US-PATENT-CLASS-357-23.6	c 33	N86-19516 *	US-PATENT-CLASS-358-106	c 39	N78-16387 *	US-PATENT-CLASS-363-71	c 33	N85-29147 *
US-PATENT-CLASS-357-231	c 33	N88-14271 *	US-PATENT-CLASS-358-107	c 35	N79-18296 *	US-PATENT-CLASS-363-78	c 33	N81-14220 *
US-PATENT-CLASS-357-23	c 76	N75-25730 *	US-PATENT-CLASS-358-107	c 36	N88-24958 *	US-PATENT-CLASS-363-87	c 33	N83-10345 *
US-PATENT-CLASS-357-23	c 33	N79-12321 *	US-PATENT-CLASS-358-109	c 32	N79-20297 *	US-PATENT-CLASS-363-89	c 33	N78-10377 *
US-PATENT-CLASS-357-23	c 33	N81-26360 *	US-PATENT-CLASS-358-109	c 33	N81-33403 *	US-PATENT-CLASS-363-95	c 33	N79-24257 *
US-PATENT-CLASS-357-24	c 33	N75-31331 *	US-PATENT-CLASS-358-109	c 43	N82-13465 *	US-PATENT-CLASS-363-97	c 33	N79-24254 *
US-PATENT-CLASS-357-24	c 33	N88-14271 *	US-PATENT-CLASS-358-109	c 36	N83-34304 *	US-PATENT-CLASS-364-106	c 09	N88-28939 *
US-PATENT-CLASS-357-29	c 76	N75-25730 *	US-PATENT-CLASS-358-111	c 32	N85-29117 *	US-PATENT-CLASS-364-120	c 07	N81-19115 *
US-PATENT-CLASS-357-29	c 35	N84-33765 *	US-PATENT-CLASS-358-125	c 52	N79-10724 *	US-PATENT-CLASS-364-200	c 52	N79-12694 *
US-PATENT-CLASS-357-29	c 76	N87-13313 *	US-PATENT-CLASS-358-125	c 74	N84-23247 *	US-PATENT-CLASS-364-200	c 62	N81-24779 *
US-PATENT-CLASS-357-30	c 44	N76-28635 *	US-PATENT-CLASS-358-125	c 74	N86-21348 *	US-PATENT-CLASS-364-200	c 60	N81-27814 *
US-PATENT-CLASS-357-30	c 44	N78-13526 *	US-PATENT-CLASS-358-133	c 32	N77-24328 *	US-PATENT-CLASS-364-200	c 60	N83-25378 *
US-PATENT-CLASS-357-30	c 44	N78-24609 *	US-PATENT-CLASS-358-133	c 32	N85-29117 *	US-PATENT-CLASS-364-200	c 60	N83-32342 *
US-PATENT-CLASS-357-30	c 44	N78-25527 *	US-PATENT-CLASS-358-133	c 17	N87-25348 *	US-PATENT-CLASS-364-200	c 32	N85-21428 *
US-PATENT-CLASS-357-30	c 44	N79-11467 *	US-PATENT-CLASS-358-138	c 32	N77-24328 *	US-PATENT-CLASS-364-200	c 60	N85-21992 *
US-PATENT-CLASS-357-30	c 44	N79-14528 *	US-PATENT-CLASS-358-138	c 17	N87-25348 *	US-PATENT-CLASS-364-200	c 60	N88-29310 *
US-PATENT-CLASS-357-30	c 44	N79-31752 *	US-PATENT-CLASS-358-142	c 74	N78-14889 *	US-PATENT-CLASS-364-300	c 52	N79-12694 *
US-PATENT-CLASS-357-30	c 44	N80-29835 *	US-PATENT-CLASS-358-161	c 32	N85-21427 *	US-PATENT-CLASS-364-400	c 33	N85-29142 *
US-PATENT-CLASS-357-30	c 44	N81-19558 *	US-PATENT-CLASS-358-168	c 32	N86-20647 *	US-PATENT-CLASS-364-413	c 39	N83-20280 *
US-PATENT-CLASS-357-30	c 44	N81-29525 *	US-PATENT-CLASS-358-174	c 32	N85-21427 *	US-PATENT-CLASS-364-415	c 52	N79-12694 *
US-PATENT-CLASS-357-30	c 44	N82-26777 *	US-PATENT-CLASS-358-213	c 33	N81-33403 *	US-PATENT-CLASS-364-415	c 35	N84-12445 *
US-PATENT-CLASS-357-30	c 44	N82-29709 *	US-PATENT-CLASS-358-213	c 33	N82-24416 *	US-PATENT-CLASS-364-417	c 52	N79-10724 *
US-PATENT-CLASS-357-30	c 44	N82-31764 *	US-PATENT-CLASS-358-217	c 74	N84-23247 *	US-PATENT-CLASS-364-431	c 07	N81-19115 *
US-PATENT-CLASS-357-30	c 44	N83-13579 *	US-PATENT-CLASS-358-217	c 32	N85-21427 *	US-PATENT-CLASS-364-433	c 06	N86-27280 *
US-PATENT-CLASS-357-30	c 44	N83-32177 *	US-PATENT-CLASS-358-219	c 32	N85-21427 *	US-PATENT-CLASS-364-434	c 08	N79-23097 *
US-PATENT-CLASS-357-30	c 35	N84-33765 *	US-PATENT-CLASS-358-222	c 74	N86-28732 *	US-PATENT-CLASS-364-434	c 08	N81-24106 *
US-PATENT-CLASS-357-30	c 33	N85-21492 *	US-PATENT-CLASS-358-225	c 74	N78-17865 *	US-PATENT-CLASS-364-435	c 06	N86-27280 *
US-PATENT-CLASS-357-30	c 44	N85-21768 *	US-PATENT-CLASS-358-225	c 32	N75-21485 *	US-PATENT-CLASS-364-452	c 04	N84-27713 *
US-PATENT-CLASS-357-30	c 44	N85-30475 *	US-PATENT-CLASS-358-41	c 74	N78-17865 *	US-PATENT-CLASS-364-453	c 18	N81-29152 *
US-PATENT-CLASS-357-30	c 33	N86-19516 *	US-PATENT-CLASS-358-44	c 74	N77-18893 *	US-PATENT-CLASS-364-453	c 33	N85-29142 *
US-PATENT-CLASS-357-30	c 76	N86-20150 *	US-PATENT-CLASS-358-55	c 74	N78-17865 *	US-PATENT-CLASS-364-458	c 33	N79-14267 *
US-PATENT-CLASS-357-30	c 44	N86-32875 *	US-PATENT-CLASS-358-81	c 32	N79-20297 *	US-PATENT-CLASS-364-484	c 32	N89-14385 *
US-PATENT-CLASS-357-30	c 76	N87-13313 *	US-PATENT-CLASS-358-88	c 74	N86-21348 *	US-PATENT-CLASS-364-500	c 25	N88-29002 *
US-PATENT-CLASS-357-30	c 33	N87-23879 *	US-PATENT-CLASS-358-96	c 52	N79-10724 *	US-PATENT-CLASS-364-510	c 34	N81-26402 *
US-PATENT-CLASS-357-30	c 33	N88-14271 *	US-PATENT-CLASS-361-119	c 54	N78-17675 *	US-PATENT-CLASS-364-514	c 33	N81-33405 *
US-PATENT-CLASS-357-30	c 33	N88-14271 *	US-PATENT-CLASS-361-92	c 54	N78-17675 *	US-PATENT-CLASS-364-522	c 39	N83-20280 *
US-PATENT-CLASS-357-30	c 76	N88-14836 *	US-PATENT-CLASS-360-101	c 35	N76-16391 *	US-PATENT-CLASS-364-556	c 36	N85-29264 *
US-PATENT-CLASS-357-32	c 35	N84-33765 *	US-PATENT-CLASS-360-10	c 35	N76-16391 *	US-PATENT-CLASS-364-557	c 35	N84-14491 *
US-PATENT-CLASS-357-35	c 33	N87-23879 *	US-PATENT-CLASS-360-25	c 35	N77-17426 *	US-PATENT-CLASS-364-557	c 25	N88-29002 *
US-PATENT-CLASS-357-40	c 36	N85-30305 *	US-PATENT-CLASS-360-26	c 33	N76-18353 *	US-PATENT-CLASS-364-558	c 35	N84-14491 *
US-PATENT-CLASS-357-41	c 33	N79-12321 *	US-PATENT-CLASS-360-31	c 35	N77-17426 *	US-PATENT-CLASS-364-558	c 07	N84-22559 *
US-PATENT-CLASS-357-42	c 76	N75-25730 *	US-PATENT-CLASS-360-35	c 35	N76-16391 *	US-PATENT-CLASS-364-559	c 39	N83-20280 *
US-PATENT-CLASS-357-45	c 33	N79-12321 *	US-PATENT-CLASS-360-51	c 33	N76-18353 *	US-PATENT-CLASS-364-560	c 43	N79-26439 *
US-PATENT-CLASS-357-45	c 44	N79-26475 *	US-PATENT-CLASS-360-9	c 35	N76-16391 *	US-PATENT-CLASS-364-561	c 36	N88-24958 *

US-PATENT-CLASS-364-566	c 18	N81-29152 *	US-PATENT-CLASS-372-94	c 36	N84-14509 *	US-PATENT-CLASS-403-163	c 18	N87-14373 *
US-PATENT-CLASS-364-571	c 34	N81-26402 *	US-PATENT-CLASS-372-95	c 36	N84-28065 *	US-PATENT-CLASS-403-16	c 37	N85-30334 *
US-PATENT-CLASS-364-571	c 35	N84-14491 *	US-PATENT-CLASS-372-98	c 36	N84-14509 *	US-PATENT-CLASS-403-171	c 31	N81-25258 *
US-PATENT-CLASS-364-571	c 33	N85-34333 *	US-PATENT-CLASS-372-99	c 36	N87-25567 *	US-PATENT-CLASS-403-171	c 31	N86-19479 *
US-PATENT-CLASS-364-571	c 25	N88-29002 *	US-PATENT-CLASS-373-10	c 35	N87-23944 *	US-PATENT-CLASS-403-171	c 37	N88-29180 *
US-PATENT-CLASS-364-578	c 33	N85-34333 *	US-PATENT-CLASS-373-15	c 35	N87-23944 *	US-PATENT-CLASS-403-179	c 27	N76-14264 *
US-PATENT-CLASS-364-604	c 32	N79-14267 *	US-PATENT-CLASS-374-115	c 35	N86-19580 *	US-PATENT-CLASS-403-217	c 37	N82-32732 *
US-PATENT-CLASS-364-713	c 32	N79-20297 *	US-PATENT-CLASS-374-117	c 52	N85-30618 *	US-PATENT-CLASS-403-217	c 37	N88-29180 *
US-PATENT-CLASS-364-717	c 32	N82-31583 *	US-PATENT-CLASS-374-120	c 35	N86-19580 *	US-PATENT-CLASS-403-273	c 37	N77-23482 *
US-PATENT-CLASS-364-723	c 60	N85-33701 *	US-PATENT-CLASS-374-122	c 06	N83-10040 *	US-PATENT-CLASS-403-282	c 26	N83-10170 *
US-PATENT-CLASS-364-728	c 32	N79-14267 *	US-PATENT-CLASS-374-122	c 43	N85-21723 *	US-PATENT-CLASS-403-28	c 27	N76-14264 *
US-PATENT-CLASS-364-728	c 60	N86-21154 *	US-PATENT-CLASS-374-122	c 32	N87-21206 *	US-PATENT-CLASS-403-28	c 37	N85-29285 *
US-PATENT-CLASS-364-728	c 60	N88-24169 *	US-PATENT-CLASS-374-123	c 06	N83-10040 *	US-PATENT-CLASS-403-312	c 37	N86-27630 *
US-PATENT-CLASS-364-757	c 60	N88-24169 *	US-PATENT-CLASS-374-137	c 36	N85-21639 *	US-PATENT-CLASS-403-315	c 37	N82-24494 *
US-PATENT-CLASS-364-822	c 32	N83-18975 *	US-PATENT-CLASS-374-160	c 52	N85-30618 *	US-PATENT-CLASS-403-317	c 37	N82-32732 *
US-PATENT-CLASS-364-822	c 74	N86-21348 *	US-PATENT-CLASS-374-162R	c 74	N82-30071 *	US-PATENT-CLASS-403-317	c 37	N85-21649 *
US-PATENT-CLASS-364-825	c 33	N82-24417 *	US-PATENT-CLASS-374-163	c 35	N86-19580 *	US-PATENT-CLASS-403-322	c 18	N84-22605 *
US-PATENT-CLASS-364-853	c 60	N85-33701 *	US-PATENT-CLASS-374-17	c 35	N83-29650 *	US-PATENT-CLASS-403-322	c 37	N85-30334 *
US-PATENT-CLASS-364-861	c 32	N83-18975 *	US-PATENT-CLASS-374-183	c 33	N86-32624 *	US-PATENT-CLASS-403-322	c 37	N85-30336 *
US-PATENT-CLASS-364-900	c 52	N79-12694 *	US-PATENT-CLASS-374-1	c 35	N84-28019 *	US-PATENT-CLASS-403-328	c 18	N86-20469 *
US-PATENT-CLASS-364-900	c 60	N79-20751 *	US-PATENT-CLASS-374-208	c 37	N85-21651 *	US-PATENT-CLASS-403-331	c 37	N82-32732 *
US-PATENT-CLASS-364-900	c 60	N81-27814 *	US-PATENT-CLASS-374-210	c 37	N85-21651 *	US-PATENT-CLASS-403-340	c 37	N82-32732 *
US-PATENT-CLASS-364-900	c 60	N83-32342 *	US-PATENT-CLASS-374-36	c 25	N88-29002 *	US-PATENT-CLASS-403-341	c 18	N87-27713 *
US-PATENT-CLASS-364-900	c 60	N84-28491 *	US-PATENT-CLASS-374-46	c 34	N87-34421 *	US-PATENT-CLASS-403-348	c 37	N85-30336 *
US-PATENT-CLASS-364-900	c 60	N84-28492 *	US-PATENT-CLASS-374-46	c 25	N86-19413 *	US-PATENT-CLASS-403-388	c 37	N86-27630 *
US-PATENT-CLASS-364-900	c 33	N89-14384 *	US-PATENT-CLASS-374-51	c 39	N83-32081 *	US-PATENT-CLASS-403-408.1	c 37	N86-27630 *
US-PATENT-CLASS-365-120	c 33	N81-29342 *	US-PATENT-CLASS-374-G	c 25	N86-19413 *	US-PATENT-CLASS-403-408	c 37	N85-29285 *
US-PATENT-CLASS-365-768	c 32	N86-27513 *	US-PATENT-CLASS-374-9	c 32	N87-21206 *	US-PATENT-CLASS-403-56	c 18	N85-29991 *
US-PATENT-CLASS-366-106	c 71	N84-28568 *	US-PATENT-CLASS-375-101	c 32	N87-25511 *	US-PATENT-CLASS-403-64	c 31	N86-19479 *
US-PATENT-CLASS-366-114	c 71	N83-35781 *	US-PATENT-CLASS-375-102	c 32	N87-25511 *	US-PATENT-CLASS-403-76	c 18	N85-29991 *
US-PATENT-CLASS-367-100	c 32	N82-18443 *	US-PATENT-CLASS-375-104	c 35	N81-19427 *	US-PATENT-CLASS-403-85	c 18	N87-14373 *
US-PATENT-CLASS-367-102	c 32	N82-18443 *	US-PATENT-CLASS-375-106	c 60	N82-16747 *	US-PATENT-CLASS-403-90	c 18	N85-29991 *
US-PATENT-CLASS-367-181	c 33	N82-26572 *	US-PATENT-CLASS-375-106	c 32	N82-31583 *	US-PATENT-CLASS-405-229	c 44	N79-24432 *
US-PATENT-CLASS-367-189	c 35	N84-22833 *	US-PATENT-CLASS-375-107	c 32	N81-14186 *	US-PATENT-CLASS-405-263	c 44	N79-24432 *
US-PATENT-CLASS-367-191	c 71	N88-24241 *	US-PATENT-CLASS-375-110	c 32	N87-21207 *	US-PATENT-CLASS-405-155	c 37	N84-16561 *
US-PATENT-CLASS-367-26	c 39	N80-10507 *	US-PATENT-CLASS-375-114	c 60	N82-16747 *	US-PATENT-CLASS-407-117	c 37	N81-14319 *
US-PATENT-CLASS-367-27	c 31	N80-32584 *	US-PATENT-CLASS-375-115	c 32	N81-15179 *	US-PATENT-CLASS-407-85	c 37	N81-14319 *
US-PATENT-CLASS-367-36	c 31	N80-32584 *	US-PATENT-CLASS-375-116	c 60	N82-16747 *	US-PATENT-CLASS-408-1-R	c 31	N87-25491 *
US-PATENT-CLASS-367-57	c 31	N80-32584 *	US-PATENT-CLASS-375-120	c 32	N84-27952 *	US-PATENT-CLASS-408-1R	c 37	N81-14319 *
US-PATENT-CLASS-367-88	c 32	N82-18443 *	US-PATENT-CLASS-375-120	c 32	N87-21207 *	US-PATENT-CLASS-408-1R	c 31	N83-27058 *
US-PATENT-CLASS-367-88	c 32	N83-31918 *	US-PATENT-CLASS-375-120	c 33	N87-25531 *	US-PATENT-CLASS-408-111	c 37	N74-25968 *
US-PATENT-CLASS-367-88	c 43	N86-19711 *	US-PATENT-CLASS-375-120	c 32	N81-15179 *	US-PATENT-CLASS-408-112	c 37	N75-25186 *
US-PATENT-CLASS-367-908	c 35	N89-14407 *	US-PATENT-CLASS-375-1	c 35	N81-19427 *	US-PATENT-CLASS-408-137	c 15	N71-33518 *
US-PATENT-CLASS-367-95	c 32	N82-23376 *	US-PATENT-CLASS-375-1	c 33	N81-33405 *	US-PATENT-CLASS-408-186	c 37	N75-25186 *
US-PATENT-CLASS-367-99	c 32	N87-14559 *	US-PATENT-CLASS-375-23	c 32	N87-21207 *	US-PATENT-CLASS-408-193	c 37	N75-25186 *
US-PATENT-CLASS-368-184	c 33	N83-36357 *	US-PATENT-CLASS-375-34	c 35	N81-19427 *	US-PATENT-CLASS-408-195	c 37	N75-25186 *
US-PATENT-CLASS-368-200	c 33	N83-36357 *	US-PATENT-CLASS-375-39	c 32	N87-25511 *	US-PATENT-CLASS-408-61	c 31	N83-27058 *
US-PATENT-CLASS-368-201	c 33	N83-36357 *	US-PATENT-CLASS-375-54	c 33	N81-15192 *	US-PATENT-CLASS-408-80	c 37	N74-25968 *
US-PATENT-CLASS-368-47	c 33	N81-14221 *	US-PATENT-CLASS-375-54	c 32	N87-25511 *	US-PATENT-CLASS-409-131	c 31	N83-27058 *
US-PATENT-CLASS-37N	c 27	N81-15104 *	US-PATENT-CLASS-375-54	c 33	N87-25531 *	US-PATENT-CLASS-41R	c 27	N81-15104 *
US-PATENT-CLASS-370-100	c 60	N82-16747 *	US-PATENT-CLASS-375-58	c 32	N81-15179 *	US-PATENT-CLASS-410-156	c 37	N85-34401 *
US-PATENT-CLASS-370-58	c 60	N81-27814 *	US-PATENT-CLASS-375-59	c 33	N87-25531 *	US-PATENT-CLASS-410-79	c 18	N85-29991 *
US-PATENT-CLASS-370-67	c 33	N82-29538 *	US-PATENT-CLASS-375-67	c 33	N81-15192 *	US-PATENT-CLASS-410-90	c 18	N85-29991 *
US-PATENT-CLASS-370-85	c 33	N81-14221 *	US-PATENT-CLASS-375-76	c 33	N87-25531 *	US-PATENT-CLASS-411-103	c 37	N85-30335 *
US-PATENT-CLASS-371-20	c 33	N81-26359 *	US-PATENT-CLASS-375-77	c 32	N84-27952 *	US-PATENT-CLASS-411-108	c 37	N85-30335 *
US-PATENT-CLASS-371-25	c 33	N81-26359 *	US-PATENT-CLASS-375-81	c 32	N84-27952 *	US-PATENT-CLASS-411-166	c 37	N87-22976 *
US-PATENT-CLASS-371-37	c 60	N87-21591 *	US-PATENT-CLASS-375-88	c 17	N87-16863 *	US-PATENT-CLASS-411-353	c 37	N83-19091 *
US-PATENT-CLASS-371-40	c 60	N87-21591 *	US-PATENT-CLASS-375-99	c 35	N81-19427 *	US-PATENT-CLASS-411-368	c 37	N85-29285 *
US-PATENT-CLASS-371-43	c 33	N87-25531 *	US-PATENT-CLASS-376-127	c 72	N87-21661 *	US-PATENT-CLASS-411-368	c 37	N87-22976 *
US-PATENT-CLASS-371-63	c 17	N87-16863 *	US-PATENT-CLASS-376-159	c 25	N85-21279 *	US-PATENT-CLASS-411-378	c 37	N85-29285 *
US-PATENT-CLASS-371-68	c 60	N82-29013 *	US-PATENT-CLASS-377-39	c 33	N89-14385 *	US-PATENT-CLASS-411-424	c 37	N87-22976 *
US-PATENT-CLASS-371-6	c 32	N83-13323 *	US-PATENT-CLASS-378-104	c 33	N85-29147 *	US-PATENT-CLASS-411-426	c 37	N85-29285 *
US-PATENT-CLASS-372-100	c 36	N84-14509 *	US-PATENT-CLASS-378-112	c 33	N85-29147 *	US-PATENT-CLASS-411-427	c 37	N87-22976 *
US-PATENT-CLASS-372-103	c 36	N84-28065 *	US-PATENT-CLASS-378-2	c 34	N83-19015 *	US-PATENT-CLASS-411-501	c 37	N85-29285 *
US-PATENT-CLASS-372-108	c 36	N84-14509 *	US-PATENT-CLASS-378-43	c 34	N84-11920 *	US-PATENT-CLASS-411-517	c 37	N83-19091 *
US-PATENT-CLASS-372-18	c 36	N87-23960 *	US-PATENT-CLASS-378-43	c 74	N86-20126 *	US-PATENT-CLASS-411-531	c 37	N85-29285 *
US-PATENT-CLASS-372-20	c 36	N84-22943 *	US-PATENT-CLASS-378-58	c 74	N86-20126 *	US-PATENT-CLASS-411-531	c 37	N87-22976 *
US-PATENT-CLASS-372-20	c 36	N87-25567 *	US-PATENT-CLASS-378-59	c 74	N86-20126 *	US-PATENT-CLASS-414-1	c 37	N80-14398 *
US-PATENT-CLASS-372-25	c 33	N83-34189 *	US-PATENT-CLASS-378-85	c 74	N86-20124 *	US-PATENT-CLASS-414-1	c 54	N86-28618 *
US-PATENT-CLASS-372-28	c 36	N84-22943 *	US-PATENT-CLASS-382-31	c 74	N89-14078 *	US-PATENT-CLASS-414-217	c 37	N85-29286 *
US-PATENT-CLASS-372-32	c 36	N84-22943 *	US-PATENT-CLASS-382-42	c 74	N86-21348 *	US-PATENT-CLASS-414-222	c 37	N82-32731 *
US-PATENT-CLASS-372-32	c 33	N85-34333 *	US-PATENT-CLASS-382-42	c 60	N88-24169 *	US-PATENT-CLASS-414-226	c 37	N82-32731 *
US-PATENT-CLASS-372-38	c 36	N85-30305 *	US-PATENT-CLASS-384-101	c 37	N85-33490 *	US-PATENT-CLASS-414-288	c 85	N85-34722 *
US-PATENT-CLASS-372-43	c 36	N87-23960 *	US-PATENT-CLASS-384-103	c 37	N86-19606 *	US-PATENT-CLASS-414-328	c 85	N85-34722 *
US-PATENT-CLASS-372-46	c 36	N85-30305 *	US-PATENT-CLASS-384-106	c 37	N86-19606 *	US-PATENT-CLASS-414-373	c 85	N85-34722 *
US-PATENT-CLASS-372-4	c 36	N84-28065 *	US-PATENT-CLASS-384-124	c 27	N83-34043 *	US-PATENT-CLASS-414-4	c 37	N79-28551 *
US-PATENT-CLASS-372-4	c 36	N87-25567 *	US-PATENT-CLASS-384-99	c 37	N85-33490 *	US-PATENT-CLASS-414-4	c 54	N81-26718 *
US-PATENT-CLASS-372-50	c 36	N85-30305 *	US-PATENT-CLASS-39-25.35	c 33	N86-20671 *	US-PATENT-CLASS-414-4	c 37	N86-20789 *
US-PATENT-CLASS-372-55	c 36	N84-16542 *	US-PATENT-CLASS-4-10	c 54	N74-20725 *	US-PATENT-CLASS-414-5	c 54	N86-28618 *
US-PATENT-CLASS-372-56	c 36	N82-28616 *	US-PATENT-CLASS-4-110	c 05	N72-22093 *	US-PATENT-CLASS-414-689	c 18	N89-12621 *
US-PATENT-CLASS-372-56	c 36	N83-10417 *	US-PATENT-CLASS-4-120	c 54	N74-20725 *	US-PATENT-CLASS-414-6	c 54	N79-24652 *
US-PATENT-CLASS-372-58	c 36	N82-28616 *	US-PATENT-CLASS-4-144.3	c 52	N81-24711 *	US-PATENT-CLASS-414-718	c 37	N86-20789 *
US-PATENT-CLASS-372-59	c 36	N83-10417 *	US-PATENT-CLASS-4-144.3	c 52	N81-28740 *	US-PATENT-CLASS-414-718	c 18	N89-12621 *
US-PATENT-CLASS-372-60	c 36	N83-10417 *	US-PATENT-CLASS-4-498	c 44	N84-34792 *	US-PATENT-CLASS-414-730	c 37	N81-27519 *
US-PATENT-CLASS-372-61	c 74	N87-14971 *	US-PATENT-CLASS-4-99	c 05	N72-22093 *	US-PATENT-CLASS-414-730	c 37	N86-19603 *
US-PATENT-CLASS-372-68	c 36	N87-23961 *	US-PATENT-CLASS-40-28	c 12	N71-18603 *	US-PATENT-CLASS-414-735	c 54	N81-26718 *
US-PATENT-CLASS-372-69	c 36	N87-25567 *	US-PATENT-CLASS-403-102	c 37	N85-30336 *	US-PATENT-CLASS-414-735	c 18	N88-23828 *
US-PATENT-CLASS-372-71	c 36	N84-28065 *	US-PATENT-CLASS-403-102	c 18	N87-14373 *	US-PATENT-CLASS-414-735	c 18	N85-34722 *
US-PATENT-CLASS-372-74	c 35	N84-12444 *	US-PATENT-CLASS-403-105	c 37	N79-14382 *	US-PATENT-CLASS-414-739	c 37	N82-32731 *
US-PATENT-CLASS-372-79	c 36	N84-16542 *	US-PATENT-CLASS-403-113	c 37	N86-19605 *	US-PATENT-CLASS-414-744A	c 54	N81-26718 *
US-PATENT-CLASS-372-79	c 36	N86-29204 *	US-PATENT-CLASS-403-119	c 18	N87-14373 *	US-PATENT-CLASS-414-750	c 18	N88-23828 *
US-PATENT-CLASS-372-81	c 36	N87-23961 *	US-PATENT-CLASS-403-120	c 37	N86-19605 *	US-PATENT-CLASS-414-753	c 37	N86-20789 *
US-PATENT-CLASS-372-82	c 36	N82-28616 *	US-PATENT-CLASS-403-143	c 18	N85-29991 *	US-PATENT-CLASS-414-786	c 85	N85-34722 *
US-PATENT-CLASS-372-93	c 36	N84-14509 *	US-PATENT-CLASS-403-146	c 18	N87-14373 *	US-PATENT-CLASS-414-7	c 54	N86-28618 *
US-PATENT-CLASS-372-93	c 36	N84-28065 *	US-PATENT-CLASS-403-15	c 37	N85-30334 *	US-PATENT-CLASS-414-7	c 54	N86-28620 *

US-PATENT-CLASS-414-8	c 54	N86-28618 *	US-PATENT-CLASS-416-242	c 02	N84-11136 *	US-PATENT-CLASS-422-78	c 25	N86-19413 *
US-PATENT-CLASS-415-DIG.8	c 44	N82-24639 *	US-PATENT-CLASS-416-242	c 02	N84-28732 *	US-PATENT-CLASS-422-80	c 25	N82-12166 *
US-PATENT-CLASS-415-DIG.8	c 44	N84-23018 *	US-PATENT-CLASS-416-244A	c 07	N78-33101 *	US-PATENT-CLASS-422-86	c 35	N85-29213 *
US-PATENT-CLASS-415-101	c 44	N80-21828 *	US-PATENT-CLASS-416-248	c 37	N78-10468 *	US-PATENT-CLASS-422-88	c 35	N85-29213 *
US-PATENT-CLASS-415-115	c 07	N79-10057 *	US-PATENT-CLASS-416-25	c 05	N75-12930 *	US-PATENT-CLASS-422-9	c 45	N80-14579 *
US-PATENT-CLASS-415-115	c 34	N83-27144 *	US-PATENT-CLASS-416-2	c 44	N79-14527 *	US-PATENT-CLASS-423-DIG.10	c 24	N84-22695 *
US-PATENT-CLASS-415-115	c 07	N84-33410 *	US-PATENT-CLASS-416-500	c 05	N81-19087 *	US-PATENT-CLASS-423-DIG.10	c 31	N85-20153 *
US-PATENT-CLASS-415-115	c 34	N85-33433 *	US-PATENT-CLASS-416-500	c 05	N85-29947 *	US-PATENT-CLASS-423-131	c 28	N81-15119 *
US-PATENT-CLASS-415-116	c 07	N79-10057 *	US-PATENT-CLASS-416-51	c 05	N79-17847 *	US-PATENT-CLASS-423-149	c 26	N80-14229 *
US-PATENT-CLASS-415-118	c 35	N83-35338 *	US-PATENT-CLASS-416-61	c 35	N78-24515 *	US-PATENT-CLASS-423-1	c 28	N81-15119 *
US-PATENT-CLASS-415-136	c 37	N88-23978 *	US-PATENT-CLASS-416-61	c 37	N79-14382 *	US-PATENT-CLASS-423-231	c 25	N74-12813 *
US-PATENT-CLASS-415-143	c 34	N79-20335 *	US-PATENT-CLASS-416-88	c 05	N79-17847 *	US-PATENT-CLASS-423-235	c 25	N82-28368 *
US-PATENT-CLASS-415-145	c 07	N77-28118 *	US-PATENT-CLASS-416-89	c 05	N79-17847 *	US-PATENT-CLASS-423-242	c 45	N79-12584 *
US-PATENT-CLASS-415-145	c 07	N82-32366 *	US-PATENT-CLASS-416-92	c 07	N84-22560 *	US-PATENT-CLASS-423-249	c 25	N76-27383 *
US-PATENT-CLASS-415-170-R	c 37	N88-23978 *	US-PATENT-CLASS-416-97A	c 34	N85-33433 *	US-PATENT-CLASS-423-276	c 23	N87-23698 *
US-PATENT-CLASS-415-174	c 37	N79-18318 *	US-PATENT-CLASS-416-97R	c 34	N83-27144 *	US-PATENT-CLASS-423-284	c 23	N87-23698 *
US-PATENT-CLASS-415-174	c 37	N80-26658 *	US-PATENT-CLASS-416-97R	c 07	N84-22560 *	US-PATENT-CLASS-423-293	c 26	N80-14229 *
US-PATENT-CLASS-415-174	c 37	N82-19540 *	US-PATENT-CLASS-417-138	c 35	N75-19611 *	US-PATENT-CLASS-423-303	c 44	N84-23019 *
US-PATENT-CLASS-415-174	c 27	N82-29453 *	US-PATENT-CLASS-417-141	c 44	N76-29701 *	US-PATENT-CLASS-423-33-5	c 25	N79-28253 *
US-PATENT-CLASS-415-174	c 18	N83-20996 *	US-PATENT-CLASS-417-152	c 15	N72-22489 *	US-PATENT-CLASS-423-338	c 76	N87-29360 *
US-PATENT-CLASS-415-174	c 37	N84-22957 *	US-PATENT-CLASS-417-159	c 09	N84-27749 *	US-PATENT-CLASS-423-339	c 76	N87-29360 *
US-PATENT-CLASS-415-174	c 37	N86-20788 *	US-PATENT-CLASS-417-15	c 37	N83-26078 *	US-PATENT-CLASS-423-345	c 76	N76-25049 *
US-PATENT-CLASS-415-175	c 07	N83-31603 *	US-PATENT-CLASS-417-207	c 44	N76-29701 *	US-PATENT-CLASS-423-345	c 76	N79-23798 *
US-PATENT-CLASS-415-178	c 07	N82-32366 *	US-PATENT-CLASS-417-209	c 34	N76-17317 *	US-PATENT-CLASS-423-346	c 76	N76-25049 *
US-PATENT-CLASS-415-178	c 07	N83-31603 *	US-PATENT-CLASS-417-209	c 44	N76-29701 *	US-PATENT-CLASS-423-348	c 26	N80-14229 *
US-PATENT-CLASS-415-180	c 07	N77-23106 *	US-PATENT-CLASS-417-225	c 35	N78-10428 *	US-PATENT-CLASS-423-350	c 37	N80-10494 *
US-PATENT-CLASS-415-180	c 37	N78-10467 *	US-PATENT-CLASS-417-328	c 37	N84-28081 *	US-PATENT-CLASS-423-350	c 31	N80-18231 *
US-PATENT-CLASS-415-181	c 07	N74-28226 *	US-PATENT-CLASS-417-36	c 35	N75-19611 *	US-PATENT-CLASS-423-352	c 36	N76-18427 *
US-PATENT-CLASS-415-181	c 07	N74-31270 *	US-PATENT-CLASS-417-379	c 44	N76-29701 *	US-PATENT-CLASS-423-407	c 24	N76-14203 *
US-PATENT-CLASS-415-196	c 37	N80-26658 *	US-PATENT-CLASS-417-383	c 37	N80-31790 *	US-PATENT-CLASS-423-414	c 24	N84-22695 *
US-PATENT-CLASS-415-196	c 37	N82-19540 *	US-PATENT-CLASS-417-391	c 15	N73-24513 *	US-PATENT-CLASS-423-414	c 31	N85-20153 *
US-PATENT-CLASS-415-197	c 18	N83-20996 *	US-PATENT-CLASS-417-392	c 37	N84-28081 *	US-PATENT-CLASS-423-417	c 26	N80-14229 *
US-PATENT-CLASS-415-199	c 05	N80-14107 *	US-PATENT-CLASS-417-395	c 35	N75-19611 *	US-PATENT-CLASS-423-419P	c 25	N83-33977 *
US-PATENT-CLASS-415-1	c 34	N79-20335 *	US-PATENT-CLASS-417-399	c 44	N83-14693 *	US-PATENT-CLASS-423-445	c 24	N84-22695 *
US-PATENT-CLASS-415-1	c 07	N83-31603 *	US-PATENT-CLASS-417-417	c 44	N83-28574 *	US-PATENT-CLASS-423-445	c 31	N85-20153 *
US-PATENT-CLASS-415-1	c 37	N85-29282 *	US-PATENT-CLASS-417-417	c 31	N85-21404 *	US-PATENT-CLASS-423-445	c 24	N85-21267 *
US-PATENT-CLASS-415-2R	c 44	N82-24639 *	US-PATENT-CLASS-417-462	c 37	N84-28081 *	US-PATENT-CLASS-423-446	c 15	N73-19457 *
US-PATENT-CLASS-415-2R	c 44	N84-23018 *	US-PATENT-CLASS-417-470	c 35	N74-15126 *	US-PATENT-CLASS-423-446	c 24	N84-22695 *
US-PATENT-CLASS-415-200	c 07	N79-14096 *	US-PATENT-CLASS-417-471	c 35	N74-15126 *	US-PATENT-CLASS-423-446	c 31	N85-20153 *
US-PATENT-CLASS-415-200	c 37	N79-18318 *	US-PATENT-CLASS-417-475	c 37	N86-32738 *	US-PATENT-CLASS-423-446	c 24	N85-21267 *
US-PATENT-CLASS-415-201	c 07	N79-14096 *	US-PATENT-CLASS-417-488	c 31	N85-21404 *	US-PATENT-CLASS-423-447.2	c 24	N83-25789 *
US-PATENT-CLASS-415-2	c 44	N80-21828 *	US-PATENT-CLASS-417-50	c 15	N71-27084 *	US-PATENT-CLASS-423-447.6	c 24	N83-25789 *
US-PATENT-CLASS-415-47	c 07	N83-31603 *	US-PATENT-CLASS-417-52	c 37	N74-27904 *	US-PATENT-CLASS-423-447.7	c 24	N83-25789 *
US-PATENT-CLASS-415-68	c 37	N85-29282 *	US-PATENT-CLASS-417-88	c 44	N78-32539 *	US-PATENT-CLASS-423-449	c 24	N84-22695 *
US-PATENT-CLASS-415-9	c 44	N79-14527 *	US-PATENT-CLASS-418-113	c 37	N82-16408 *	US-PATENT-CLASS-423-449	c 31	N85-20153 *
US-PATENT-CLASS-416-104	c 05	N77-17029 *	US-PATENT-CLASS-418-142	c 37	N82-16408 *	US-PATENT-CLASS-423-449	c 24	N85-21267 *
US-PATENT-CLASS-416-114	c 05	N81-19087 *	US-PATENT-CLASS-42-1F	c 11	N72-22247 *	US-PATENT-CLASS-423-539	c 25	N82-28368 *
US-PATENT-CLASS-416-114	c 08	N87-23631 *	US-PATENT-CLASS-42-101	c 44	N86-25874 *	US-PATENT-CLASS-423-540	c 25	N82-28368 *
US-PATENT-CLASS-416-115	c 02	N72-11018 *	US-PATENT-CLASS-42-215	c 44	N76-29704 *	US-PATENT-CLASS-423-542	c 25	N82-28368 *
US-PATENT-CLASS-416-117	c 37	N84-12493 *	US-PATENT-CLASS-420-445	c 26	N82-31505 *	US-PATENT-CLASS-423-579	c 46	N74-13011 *
US-PATENT-CLASS-416-121	c 02	N72-11018 *	US-PATENT-CLASS-420-460	c 26	N87-14482 *	US-PATENT-CLASS-423-579	c 25	N82-28368 *
US-PATENT-CLASS-416-127	c 02	N72-11018 *	US-PATENT-CLASS-420-54	c 26	N89-14303 *	US-PATENT-CLASS-423-581	c 25	N79-10162 *
US-PATENT-CLASS-416-130	c 02	N72-11018 *	US-PATENT-CLASS-420-551	c 26	N82-31505 *	US-PATENT-CLASS-423-582	c 26	N78-32229 *
US-PATENT-CLASS-416-132B	c 37	N84-12493 *	US-PATENT-CLASS-420-588	c 26	N82-31505 *	US-PATENT-CLASS-423-583	c 26	N78-32229 *
US-PATENT-CLASS-416-132R	c 05	N79-17847 *	US-PATENT-CLASS-420-62	c 26	N89-14303 *	US-PATENT-CLASS-423-600	c 25	N83-33977 *
US-PATENT-CLASS-416-135	c 07	N77-32148 *	US-PATENT-CLASS-420-79	c 26	N89-14303 *	US-PATENT-CLASS-423-625	c 15	N73-19457 *
US-PATENT-CLASS-416-135	c 37	N78-10468 *	US-PATENT-CLASS-420-80	c 26	N89-14303 *	US-PATENT-CLASS-423-625	c 26	N80-14229 *
US-PATENT-CLASS-416-138	c 05	N77-17029 *	US-PATENT-CLASS-420-81	c 26	N89-14303 *	US-PATENT-CLASS-423-644	c 36	N76-18427 *
US-PATENT-CLASS-416-138	c 05	N79-17847 *	US-PATENT-CLASS-422-103	c 35	N85-29213 *	US-PATENT-CLASS-423-646R	c 44	N77-22607 *
US-PATENT-CLASS-416-141	c 05	N77-17029 *	US-PATENT-CLASS-422-109	c 54	N81-24724 *	US-PATENT-CLASS-423-648R	c 28	N78-24365 *
US-PATENT-CLASS-416-141	c 37	N78-10468 *	US-PATENT-CLASS-422-121	c 35	N84-17555 *	US-PATENT-CLASS-423-648R	c 28	N80-20402 *
US-PATENT-CLASS-416-144	c 35	N78-24515 *	US-PATENT-CLASS-422-129	c 37	N85-21652 *	US-PATENT-CLASS-423-648R	c 28	N81-14103 *
US-PATENT-CLASS-416-145	c 05	N85-29947 *	US-PATENT-CLASS-422-169	c 35	N84-17555 *	US-PATENT-CLASS-423-648R	c 25	N82-28368 *
US-PATENT-CLASS-416-149	c 02	N72-11018 *	US-PATENT-CLASS-422-178	c 35	N84-17555 *	US-PATENT-CLASS-423-648R	c 25	N83-29324 *
US-PATENT-CLASS-416-153	c 07	N77-14025 *	US-PATENT-CLASS-422-186	c 25	N82-28368 *	US-PATENT-CLASS-423-649	c 25	N83-29324 *
US-PATENT-CLASS-416-157B	c 07	N79-14096 *	US-PATENT-CLASS-422-186	c 35	N84-17555 *	US-PATENT-CLASS-423-650	c 44	N76-18642 *
US-PATENT-CLASS-416-158	c 08	N87-23631 *	US-PATENT-CLASS-422-187	c 37	N80-10494 *	US-PATENT-CLASS-423-650	c 44	N76-29700 *
US-PATENT-CLASS-416-160	c 07	N77-14025 *	US-PATENT-CLASS-422-198	c 25	N82-28368 *	US-PATENT-CLASS-423-650	c 44	N76-29704 *
US-PATENT-CLASS-416-160	c 07	N79-14096 *	US-PATENT-CLASS-422-199	c 37	N80-10494 *	US-PATENT-CLASS-423-650	c 44	N77-10636 *
US-PATENT-CLASS-416-162	c 07	N77-14025 *	US-PATENT-CLASS-422-199	c 37	N85-21652 *	US-PATENT-CLASS-423-650	c 28	N80-10374 *
US-PATENT-CLASS-416-162	c 07	N79-14096 *	US-PATENT-CLASS-422-200	c 44	N83-10501 *	US-PATENT-CLASS-423-658.5	c 28	N81-15119 *
US-PATENT-CLASS-416-165	c 07	N77-14025 *	US-PATENT-CLASS-422-202	c 44	N83-10501 *	US-PATENT-CLASS-424-12	c 25	N79-14169 *
US-PATENT-CLASS-416-167	c 07	N77-14025 *	US-PATENT-CLASS-422-208	c 37	N80-10494 *	US-PATENT-CLASS-424-12	c 51	N80-16715 *
US-PATENT-CLASS-416-167	c 07	N79-14096 *	US-PATENT-CLASS-422-224	c 31	N80-18231 *	US-PATENT-CLASS-424-156	c 25	N83-33977 *
US-PATENT-CLASS-416-190	c 07	N77-32148 *	US-PATENT-CLASS-422-224	c 44	N83-10501 *	US-PATENT-CLASS-424-180	c 52	N75-15270 *
US-PATENT-CLASS-416-193A	c 07	N77-32148 *	US-PATENT-CLASS-422-235	c 37	N80-10494 *	US-PATENT-CLASS-424-247	c 52	N81-29764 *
US-PATENT-CLASS-416-1	c 34	N83-27144 *	US-PATENT-CLASS-422-242	c 37	N80-10494 *	US-PATENT-CLASS-424-267	c 52	N81-29764 *
US-PATENT-CLASS-416-200	c 02	N72-11018 *	US-PATENT-CLASS-422-246	c 76	N80-32244 *	US-PATENT-CLASS-424-274	c 52	N81-14613 *
US-PATENT-CLASS-416-214A	c 07	N78-33101 *	US-PATENT-CLASS-422-246	c 33	N81-19389 *	US-PATENT-CLASS-424-274	c 52	N81-29764 *
US-PATENT-CLASS-416-220R	c 07	N77-27116 *	US-PATENT-CLASS-422-246	c 76	N82-30105 *	US-PATENT-CLASS-424-3	c 51	N77-27677 *
US-PATENT-CLASS-416-220R	c 37	N78-10468 *	US-PATENT-CLASS-422-246	c 76	N84-35113 *	US-PATENT-CLASS-425-DIG.43	c 31	N75-13111 *
US-PATENT-CLASS-416-221	c 07	N77-27116 *	US-PATENT-CLASS-422-246	c 76	N88-24544 *	US-PATENT-CLASS-425-10	c 31	N83-35176 *
US-PATENT-CLASS-416-223-R	c 02	N89-14224 *	US-PATENT-CLASS-422-249	c 33	N81-19389 *	US-PATENT-CLASS-425-113	c 15	N73-13464 *
US-PATENT-CLASS-416-223R	c 02	N84-11136 *	US-PATENT-CLASS-422-249	c 76	N84-35113 *	US-PATENT-CLASS-425-128	c 31	N74-32920 *
US-PATENT-CLASS-416-223R	c 02	N84-28732 *	US-PATENT-CLASS-422-251	c 76	N88-14835 *	US-PATENT-CLASS-425-133	c 15	N73-13464 *
US-PATENT-CLASS-416-223	c 07	N74-28226 *	US-PATENT-CLASS-422-260	c 76	N88-14835 *	US-PATENT-CLASS-425-176	c 15	N73-13464 *
US-PATENT-CLASS-416-224	c 24	N77-19170 *	US-PATENT-CLASS-422-27	c 54	N81-24724 *	US-PATENT-CLASS-425-28B	c 31	N74-32917 *
US-PATENT-CLASS-416-224	c 07	N84-22560 *	US-PATENT-CLASS-422-30	c 54	N81-24724 *	US-PATENT-CLASS-425-35	c 31	N74-32917 *
US-PATENT-CLASS-416-228	c 05	N80-14107 *	US-PATENT-CLASS-422-34	c 54	N81-24724 *	US-PATENT-CLASS-425-376R	c 31	N81-15154 *
US-PATENT-CLASS-416-230	c 24	N77-19170 *	US-PATENT-CLASS-422-3	c 54	N81-24724 *	US-PATENT-CLASS-425-4-R	c 27	N88-23894 *
US-PATENT-CLASS-416-233	c 07	N84-22560 *	US-PATENT-CLASS-422-40	c 35	N82-11432 *	US-PATENT-CLASS-425-405R	c 31	N75-13111 *
US-PATENT-CLASS-416-237	c 07	N74-28226 *	US-PATENT-CLASS-422-41	c 52	N79-14749 *	US-PATENT-CLASS-425-415	c 31	N74-32920 *
US-PATENT-CLASS-416-238	c 05	N80-14107 *	US-PATENT-CLASS-422-48	c 52	N79-14749 *	US-PATENT-CLASS-425-438	c 31	N75-13111 *
US-PATENT-CLASS-416-23	c 05	N85-29947 *	US-PATENT-CLASS-422-52	c 51	N80-16714 *	US-PATENT-CLASS-425-468	c 31	N75-13111 *
US-PATENT-CLASS-416-241A	c 07	N77-32148 *	US-PATENT-CLASS-422-52	c 51	N83-27569 *	US-PATENT-CLASS-425-6	c 31	N81-33319 *
US-PATENT-CLASS-416-241R	c 26	N84-33555 *	US-PATENT-CLASS-422-68	c 51	N80-27067 *	US-PATENT-CLASS-425-6	c 27	N82-28442 *

US-PATENT-CLASS-425-6	c 31	N83-31896 *	US-PATENT-CLASS-427-34	c 27	N82-29453 *	US-PATENT-CLASS-427-44	c 27	N80-32516 *
US-PATENT-CLASS-425-6	c 31	N83-35176 *	US-PATENT-CLASS-427-34	c 27	N83-31855 *	US-PATENT-CLASS-427-47	c 44	N77-32583 *
US-PATENT-CLASS-425-6	c 71	N84-28568 *	US-PATENT-CLASS-427-34	c 31	N83-35177 *	US-PATENT-CLASS-427-47	c 26	N85-29005 *
US-PATENT-CLASS-425-6	c 26	N86-32551 *	US-PATENT-CLASS-427-34	c 37	N84-22957 *	US-PATENT-CLASS-427-4	c 51	N77-27677 *
US-PATENT-CLASS-425-77	c 15	N72-20446 *	US-PATENT-CLASS-427-34	c 26	N84-27855 *	US-PATENT-CLASS-427-53.1	c 36	N84-22944 *
US-PATENT-CLASS-425-7	c 31	N83-35176 *	US-PATENT-CLASS-427-350	c 24	N79-25142 *	US-PATENT-CLASS-427-53.1	c 37	N84-22957 *
US-PATENT-CLASS-427-113	c 44	N76-28635 *	US-PATENT-CLASS-427-352	c 27	N83-34039 *	US-PATENT-CLASS-427-531	c 44	N82-28780 *
US-PATENT-CLASS-427-113	c 44	N78-24609 *	US-PATENT-CLASS-427-355	c 24	N79-17916 *	US-PATENT-CLASS-427-57	c 71	N84-16940 *
US-PATENT-CLASS-427-113	c 44	N84-28205 *	US-PATENT-CLASS-427-372.2	c 27	N82-33520 *	US-PATENT-CLASS-427-58	c 33	N84-16456 *
US-PATENT-CLASS-427-115	c 25	N82-21268 *	US-PATENT-CLASS-427-372.2	c 44	N84-28205 *	US-PATENT-CLASS-427-6	c 71	N84-16940 *
US-PATENT-CLASS-427-115	c 26	N84-22734 *	US-PATENT-CLASS-427-372A	c 24	N79-25142 *	US-PATENT-CLASS-427-74	c 44	N82-28780 *
US-PATENT-CLASS-427-115	c 44	N84-28205 *	US-PATENT-CLASS-427-376.2	c 26	N85-35267 *	US-PATENT-CLASS-427-75	c 44	N78-25527 *
US-PATENT-CLASS-427-123	c 44	N79-11472 *	US-PATENT-CLASS-427-376.6	c 33	N84-16456 *	US-PATENT-CLASS-427-75	c 44	N79-11468 *
US-PATENT-CLASS-427-124	c 37	N78-13436 *	US-PATENT-CLASS-427-376.7	c 33	N84-16456 *	US-PATENT-CLASS-427-75	c 44	N79-11472 *
US-PATENT-CLASS-427-125	c 26	N84-22734 *	US-PATENT-CLASS-427-376A	c 27	N78-32260 *	US-PATENT-CLASS-427-75	c 33	N84-16456 *
US-PATENT-CLASS-427-125	c 44	N84-28205 *	US-PATENT-CLASS-427-376B	c 27	N78-32260 *	US-PATENT-CLASS-427-84	c 44	N79-11472 *
US-PATENT-CLASS-427-126.6	c 26	N84-22734 *	US-PATENT-CLASS-427-376B	c 24	N79-17916 *	US-PATENT-CLASS-427-85	c 44	N85-20530 *
US-PATENT-CLASS-427-126	c 37	N78-13436 *	US-PATENT-CLASS-427-376C	c 24	N79-17916 *	US-PATENT-CLASS-427-86	c 44	N76-28635 *
US-PATENT-CLASS-427-126	c 44	N79-11472 *	US-PATENT-CLASS-427-376	c 27	N76-22377 *	US-PATENT-CLASS-427-86	c 44	N78-24609 *
US-PATENT-CLASS-427-130	c 44	N77-32583 *	US-PATENT-CLASS-427-376	c 27	N76-23426 *	US-PATENT-CLASS-427-88	c 44	N79-31752 *
US-PATENT-CLASS-427-140	c 27	N82-33520 *	US-PATENT-CLASS-427-379	c 27	N76-22377 *	US-PATENT-CLASS-427-88	c 44	N83-13579 *
US-PATENT-CLASS-427-140	c 24	N83-13172 *	US-PATENT-CLASS-427-379	c 27	N76-23426 *	US-PATENT-CLASS-427-88	c 33	N84-16456 *
US-PATENT-CLASS-427-160	c 34	N77-18382 *	US-PATENT-CLASS-427-379	c 27	N78-32260 *	US-PATENT-CLASS-427-89	c 44	N83-13579 *
US-PATENT-CLASS-427-160	c 44	N78-19599 *	US-PATENT-CLASS-427-379	c 27	N81-19296 *	US-PATENT-CLASS-427-90	c 44	N83-13579 *
US-PATENT-CLASS-427-162	c 12	N76-15189 *	US-PATENT-CLASS-427-379	c 24	N83-13171 *	US-PATENT-CLASS-427-91	c 44	N83-13579 *
US-PATENT-CLASS-427-162	c 27	N86-31727 *	US-PATENT-CLASS-427-379	c 24	N83-13172 *	US-PATENT-CLASS-427-95	c 25	N79-28253 *
US-PATENT-CLASS-427-164	c 27	N78-14164 *	US-PATENT-CLASS-427-379	c 14	N84-22944 *	US-PATENT-CLASS-427-95	c 33	N84-16456 *
US-PATENT-CLASS-427-164	c 27	N78-31233 *	US-PATENT-CLASS-427-379	c 24	N85-30027 *	US-PATENT-CLASS-428-109	c 27	N76-14264 *
US-PATENT-CLASS-427-164	c 74	N78-32854 *	US-PATENT-CLASS-427-380	c 27	N76-22377 *	US-PATENT-CLASS-428-109	c 33	N79-12331 *
US-PATENT-CLASS-427-164	c 27	N80-24437 *	US-PATENT-CLASS-427-380	c 27	N76-23426 *	US-PATENT-CLASS-428-113	c 24	N81-14000 *
US-PATENT-CLASS-427-164	c 27	N86-31727 *	US-PATENT-CLASS-427-380	c 27	N78-32260 *	US-PATENT-CLASS-428-114	c 24	N81-13999 *
US-PATENT-CLASS-427-165	c 27	N86-31727 *	US-PATENT-CLASS-427-380	c 44	N84-28205 *	US-PATENT-CLASS-428-114	c 24	N81-14000 *
US-PATENT-CLASS-427-178	c 24	N85-30027 *	US-PATENT-CLASS-427-380	c 26	N85-35267 *	US-PATENT-CLASS-428-116	c 24	N78-10214 *
US-PATENT-CLASS-427-191	c 26	N85-35267 *	US-PATENT-CLASS-427-384	c 24	N83-13171 *	US-PATENT-CLASS-428-116	c 24	N78-17149 *
US-PATENT-CLASS-427-191	c 26	N86-32550 *	US-PATENT-CLASS-427-384	c 24	N83-13172 *	US-PATENT-CLASS-428-116	c 24	N86-28131 *
US-PATENT-CLASS-427-192	c 26	N86-32550 *	US-PATENT-CLASS-427-385.5	c 27	N81-14078 *	US-PATENT-CLASS-428-117	c 37	N76-24575 *
US-PATENT-CLASS-427-196	c 27	N76-15310 *	US-PATENT-CLASS-427-385.5	c 27	N86-20561 *	US-PATENT-CLASS-428-117	c 24	N78-15180 *
US-PATENT-CLASS-427-203	c 27	N76-16229 *	US-PATENT-CLASS-427-385B	c 44	N78-25530 *	US-PATENT-CLASS-428-117	c 24	N79-16915 *
US-PATENT-CLASS-427-204	c 27	N76-16229 *	US-PATENT-CLASS-427-385C	c 44	N78-25530 *	US-PATENT-CLASS-428-119	c 24	N79-16915 *
US-PATENT-CLASS-427-205	c 27	N76-16229 *	US-PATENT-CLASS-427-386	c 24	N78-27180 *	US-PATENT-CLASS-428-133	c 37	N79-10422 *
US-PATENT-CLASS-427-205	c 27	N82-28441 *	US-PATENT-CLASS-427-387	c 74	N78-32854 *	US-PATENT-CLASS-428-137	c 24	N79-25142 *
US-PATENT-CLASS-427-215	c 27	N78-32260 *	US-PATENT-CLASS-427-387	c 24	N83-13171 *	US-PATENT-CLASS-428-138	c 24	N78-10214 *
US-PATENT-CLASS-427-215	c 24	N83-33950 *	US-PATENT-CLASS-427-387	c 24	N83-13172 *	US-PATENT-CLASS-428-139	c 23	N81-29160 *
US-PATENT-CLASS-427-216	c 33	N84-16456 *	US-PATENT-CLASS-427-388.1	c 27	N86-20561 *	US-PATENT-CLASS-428-140	c 24	N81-14000 *
US-PATENT-CLASS-427-217	c 33	N84-16456 *	US-PATENT-CLASS-427-388A	c 24	N78-27180 *	US-PATENT-CLASS-428-141	c 24	N77-28225 *
US-PATENT-CLASS-427-219.2	c 27	N83-31855 *	US-PATENT-CLASS-427-38	c 74	N78-32854 *	US-PATENT-CLASS-428-141	c 27	N82-28440 *
US-PATENT-CLASS-427-221	c 27	N81-19296 *	US-PATENT-CLASS-427-38	c 27	N80-24437 *	US-PATENT-CLASS-428-141	c 27	N82-33521 *
US-PATENT-CLASS-427-226	c 33	N84-16456 *	US-PATENT-CLASS-427-38	c 26	N85-29005 *	US-PATENT-CLASS-428-155	c 37	N84-22957 *
US-PATENT-CLASS-427-226	c 44	N84-28205 *	US-PATENT-CLASS-427-38	c 27	N86-19458 *	US-PATENT-CLASS-428-161	c 24	N77-28225 *
US-PATENT-CLASS-427-228	c 26	N85-35267 *	US-PATENT-CLASS-427-38	c 27	N88-14179 *	US-PATENT-CLASS-428-182	c 18	N84-33450 *
US-PATENT-CLASS-427-229	c 25	N78-10225 *	US-PATENT-CLASS-427-393.3	c 27	N82-16238 *	US-PATENT-CLASS-428-182	c 31	N89-12786 *
US-PATENT-CLASS-427-229	c 37	N87-21334 *	US-PATENT-CLASS-427-397.7	c 27	N82-33520 *	US-PATENT-CLASS-428-184	c 18	N84-33450 *
US-PATENT-CLASS-427-230	c 37	N76-31524 *	US-PATENT-CLASS-427-397.7	c 26	N85-35267 *	US-PATENT-CLASS-428-189	c 27	N79-12221 *
US-PATENT-CLASS-427-240	c 37	N81-33482 *	US-PATENT-CLASS-427-398A	c 44	N79-11472 *	US-PATENT-CLASS-428-192	c 27	N82-24339 *
US-PATENT-CLASS-427-241	c 24	N83-33950 *	US-PATENT-CLASS-427-399	c 44	N79-11472 *	US-PATENT-CLASS-428-193	c 27	N82-24339 *
US-PATENT-CLASS-427-243	c 31	N83-35177 *	US-PATENT-CLASS-427-399	c 36	N84-22944 *	US-PATENT-CLASS-428-202	c 27	N84-14323 *
US-PATENT-CLASS-427-244	c 25	N82-21268 *	US-PATENT-CLASS-427-39	c 24	N85-21267 *	US-PATENT-CLASS-428-212	c 27	N76-14264 *
US-PATENT-CLASS-427-245	c 27	N80-23452 *	US-PATENT-CLASS-427-39	c 31	N86-32587 *	US-PATENT-CLASS-428-212	c 27	N79-12221 *
US-PATENT-CLASS-427-245	c 31	N88-29052 *	US-PATENT-CLASS-427-400	c 27	N83-34039 *	US-PATENT-CLASS-428-212	c 27	N82-29456 *
US-PATENT-CLASS-427-246	c 25	N82-21268 *	US-PATENT-CLASS-427-402	c 27	N76-22377 *	US-PATENT-CLASS-428-214	c 27	N76-14264 *
US-PATENT-CLASS-427-247	c 31	N83-35177 *	US-PATENT-CLASS-427-402	c 27	N76-23426 *	US-PATENT-CLASS-428-218	c 27	N82-29456 *
US-PATENT-CLASS-427-248.1	c 27	N86-19458 *	US-PATENT-CLASS-427-405	c 34	N78-18355 *	US-PATENT-CLASS-428-218	c 24	N83-13171 *
US-PATENT-CLASS-427-248E	c 37	N78-13436 *	US-PATENT-CLASS-427-405	c 27	N82-28441 *	US-PATENT-CLASS-428-220	c 15	N79-26100 *
US-PATENT-CLASS-427-248J	c 44	N78-24609 *	US-PATENT-CLASS-427-405	c 27	N83-31855 *	US-PATENT-CLASS-428-241	c 27	N82-24339 *
US-PATENT-CLASS-427-248	c 44	N76-28635 *	US-PATENT-CLASS-427-405	c 26	N84-27855 *	US-PATENT-CLASS-428-241	c 27	N83-18908 *
US-PATENT-CLASS-427-249	c 44	N76-28635 *	US-PATENT-CLASS-427-407.1	c 27	N83-34039 *	US-PATENT-CLASS-428-242	c 27	N82-24339 *
US-PATENT-CLASS-427-249	c 44	N78-24609 *	US-PATENT-CLASS-427-40	c 27	N78-31233 *	US-PATENT-CLASS-428-244	c 27	N83-18908 *
US-PATENT-CLASS-427-250	c 12	N76-15189 *	US-PATENT-CLASS-427-40	c 27	N79-18052 *	US-PATENT-CLASS-428-245	c 27	N82-24339 *
US-PATENT-CLASS-427-250	c 44	N76-28635 *	US-PATENT-CLASS-427-40	c 27	N80-24437 *	US-PATENT-CLASS-428-245	c 27	N83-18908 *
US-PATENT-CLASS-427-250	c 37	N78-13436 *	US-PATENT-CLASS-427-419.2	c 26	N83-31795 *	US-PATENT-CLASS-428-246	c 27	N84-14322 *
US-PATENT-CLASS-427-253	c 27	N82-28441 *	US-PATENT-CLASS-427-419.2	c 26	N84-27855 *	US-PATENT-CLASS-428-246	c 03	N84-33394 *
US-PATENT-CLASS-427-255	c 37	N78-13436 *	US-PATENT-CLASS-427-419A	c 34	N78-18355 *	US-PATENT-CLASS-428-247	c 33	N79-12331 *
US-PATENT-CLASS-427-261	c 44	N78-25527 *	US-PATENT-CLASS-427-41	c 27	N78-31233 *	US-PATENT-CLASS-428-247	c 33	N82-26571 *
US-PATENT-CLASS-427-261	c 44	N79-11472 *	US-PATENT-CLASS-427-41	c 74	N78-32854 *	US-PATENT-CLASS-428-251	c 27	N82-24339 *
US-PATENT-CLASS-427-270	c 27	N76-16229 *	US-PATENT-CLASS-427-41	c 27	N79-14214 *	US-PATENT-CLASS-428-257	c 27	N82-24339 *
US-PATENT-CLASS-427-275	c 27	N76-16229 *	US-PATENT-CLASS-427-41	c 27	N79-18052 *	US-PATENT-CLASS-428-258	c 33	N79-12331 *
US-PATENT-CLASS-427-287	c 27	N76-16229 *	US-PATENT-CLASS-427-41	c 27	N80-23452 *	US-PATENT-CLASS-428-259	c 33	N79-12331 *
US-PATENT-CLASS-427-292	c 24	N79-17916 *	US-PATENT-CLASS-427-421	c 71	N84-16940 *	US-PATENT-CLASS-428-260	c 27	N81-27272 *
US-PATENT-CLASS-427-292	c 24	N83-13172 *	US-PATENT-CLASS-427-421	c 26	N86-32550 *	US-PATENT-CLASS-428-260	c 27	N82-24339 *
US-PATENT-CLASS-427-294	c 27	N79-14214 *	US-PATENT-CLASS-427-422	c 24	N85-30027 *	US-PATENT-CLASS-428-260	c 27	N83-18908 *
US-PATENT-CLASS-427-294	c 26	N85-35267 *	US-PATENT-CLASS-427-423	c 34	N78-18355 *	US-PATENT-CLASS-428-260	c 27	N84-14322 *
US-PATENT-CLASS-427-296	c 26	N84-22734 *	US-PATENT-CLASS-427-423	c 27	N82-29453 *	US-PATENT-CLASS-428-260	c 27	N85-34281 *
US-PATENT-CLASS-427-302	c 74	N78-32854 *	US-PATENT-CLASS-427-423	c 27	N83-31855 *	US-PATENT-CLASS-428-262	c 27	N87-14516 *
US-PATENT-CLASS-427-302	c 24	N83-13172 *	US-PATENT-CLASS-427-423	c 31	N83-35177 *	US-PATENT-CLASS-428-263	c 27	N82-16238 *
US-PATENT-CLASS-427-306	c 26	N84-22734 *	US-PATENT-CLASS-427-423	c 37	N84-22957 *	US-PATENT-CLASS-428-264	c 27	N82-16238 *
US-PATENT-CLASS-427-318	c 26	N83-31795 *	US-PATENT-CLASS-427-425	c 37	N82-24492 *	US-PATENT-CLASS-428-265	c 27	N82-16238 *
US-PATENT-CLASS-427-322	c 34	N77-18382 *	US-PATENT-CLASS-427-426	c 27	N76-15310 *	US-PATENT-CLASS-428-266	c 27	N82-24339 *
US-PATENT-CLASS-427-322	c 74	N78-32854 *	US-PATENT-CLASS-427-426	c 71	N84-16940 *	US-PATENT-CLASS-428-267	c 27	N82-16238 *
US-PATENT-CLASS-427-322	c 27	N83-34039 *	US-PATENT-CLASS-427-427	c 24	N78-24290 *	US-PATENT-CLASS-428-272	c 27	N82-16238 *
US-PATENT-CLASS-427-327	c 24	N79-17916 *	US-PATENT-CLASS-427-427	c 26	N86-32550 *	US-PATENT-CLASS-428-280	c 27	N79-12221 *
US-PATENT-CLASS-427-328	c 24	N79-17916 *	US-PATENT-CLASS-427-429	c 27	N81-14078 *	US-PATENT-CLASS-428-280	c 03	N84-33394 *
US-PATENT-CLASS-427-340	c 27	N83-34039 *	US-PATENT-CLASS-427-436	c 33	N84-16456 *	US-PATENT-CLASS-428-282	c 24	N79-25142 *
US-PATENT-CLASS-427-343	c 44	N79-11472 *	US-PATENT-CLASS-427-437	c 33	N84-16456 *	US-PATENT-CLASS-428-283	c 24	N82-29362 *
US-PATENT-CLASS-427-346	c 71	N84-16940 *	US-PATENT-CLASS-427-443.2	c 25	N84-12262 *	US-PATENT-CLASS-428-283	c 27	N82-29456 *
US-PATENT-CLASS-427-34	c 34	N78-18355 *	US-PATENT-CLASS-427-443	c 44	N84-28205 *	US-PATENT-CLASS-428-284	c 24	N82-29362 *
US-PATENT-CLASS-427-34	c 24	N79-17916 *	US-PATENT-CLASS-427-44	c 74	N78-32854 *	US-PATENT-CLASS-428-285	c 27	N79-12221 *



US-PATENT-CLASS-428-286	c 27	N79-12221 *	US-PATENT-CLASS-428-428	c 44	N83-34448 *	US-PATENT-CLASS-428-651	c 26	N87-25455 *
US-PATENT-CLASS-428-286	c 24	N82-29362 *	US-PATENT-CLASS-428-432	c 27	N84-33589 *	US-PATENT-CLASS-428-652	c 34	N78-18355 *
US-PATENT-CLASS-428-287	c 24	N82-29362 *	US-PATENT-CLASS-428-432	c 76	N85-33826 *	US-PATENT-CLASS-428-652	c 34	N78-19599 *
US-PATENT-CLASS-428-287	c 03	N84-33394 *	US-PATENT-CLASS-428-446	c 27	N78-32260 *	US-PATENT-CLASS-428-656	c 24	N85-21266 *
US-PATENT-CLASS-428-288	c 24	N82-29362 *	US-PATENT-CLASS-428-446	c 27	N82-29456 *	US-PATENT-CLASS-428-656	c 24	N85-35233 *
US-PATENT-CLASS-428-289	c 27	N82-29456 *	US-PATENT-CLASS-428-446	c 27	N86-19458 *	US-PATENT-CLASS-428-658	c 44	N80-16452 *
US-PATENT-CLASS-428-290	c 24	N78-15180 *	US-PATENT-CLASS-428-447	c 27	N76-14264 *	US-PATENT-CLASS-428-660	c 26	N87-25455 *
US-PATENT-CLASS-428-290	c 24	N79-25142 *	US-PATENT-CLASS-428-447	c 27	N76-16230 *	US-PATENT-CLASS-428-667	c 34	N78-18355 *
US-PATENT-CLASS-428-290	c 27	N87-28657 *	US-PATENT-CLASS-428-447	c 27	N78-31233 *	US-PATENT-CLASS-428-667	c 44	N78-19599 *
US-PATENT-CLASS-428-294	c 24	N78-17150 *	US-PATENT-CLASS-428-447	c 74	N78-32854 *	US-PATENT-CLASS-428-675	c 44	N80-16452 *
US-PATENT-CLASS-428-294	c 76	N83-34796 *	US-PATENT-CLASS-428-447	c 27	N79-12221 *	US-PATENT-CLASS-428-678	c 26	N81-25188 *
US-PATENT-CLASS-428-301	c 24	N77-27188 *	US-PATENT-CLASS-428-447	c 27	N79-18052 *	US-PATENT-CLASS-428-678	c 27	N83-31855 *
US-PATENT-CLASS-428-302	c 24	N78-17150 *	US-PATENT-CLASS-428-447	c 24	N79-25142 *	US-PATENT-CLASS-428-678	c 26	N84-33555 *
US-PATENT-CLASS-428-303	c 27	N76-15310 *	US-PATENT-CLASS-428-447	c 27	N82-24339 *	US-PATENT-CLASS-428-678	c 24	N85-21266 *
US-PATENT-CLASS-428-304.4	c 03	N84-33394 *	US-PATENT-CLASS-428-447	c 27	N87-14516 *	US-PATENT-CLASS-428-678	c 24	N85-35233 *
US-PATENT-CLASS-428-307.7	c 27	N82-29456 *	US-PATENT-CLASS-428-447	c 27	N87-23736 *	US-PATENT-CLASS-428-679	c 44	N78-19599 *
US-PATENT-CLASS-428-311.5	c 27	N82-29456 *	US-PATENT-CLASS-428-448	c 27	N82-24339 *	US-PATENT-CLASS-428-679	c 26	N81-25188 *
US-PATENT-CLASS-428-312.6	c 27	N82-29456 *	US-PATENT-CLASS-428-44	c 24	N88-18628 *	US-PATENT-CLASS-428-679	c 24	N85-21266 *
US-PATENT-CLASS-428-312.6	c 44	N83-34448 *	US-PATENT-CLASS-428-44	c 27	N89-12741 *	US-PATENT-CLASS-428-679	c 24	N85-35233 *
US-PATENT-CLASS-428-312	c 27	N78-32260 *	US-PATENT-CLASS-428-450	c 27	N76-16229 *	US-PATENT-CLASS-428-680	c 44	N80-16452 *
US-PATENT-CLASS-428-313	c 24	N78-27180 *	US-PATENT-CLASS-428-450	c 27	N76-22377 *	US-PATENT-CLASS-428-680	c 26	N81-25188 *
US-PATENT-CLASS-428-317.9	c 27	N82-29456 *	US-PATENT-CLASS-428-450	c 27	N76-23426 *	US-PATENT-CLASS-428-680	c 26	N83-31795 *
US-PATENT-CLASS-428-319.1	c 03	N84-33394 *	US-PATENT-CLASS-428-450	c 27	N79-12221 *	US-PATENT-CLASS-428-680	c 24	N85-21266 *
US-PATENT-CLASS-428-325	c 27	N78-32260 *	US-PATENT-CLASS-428-450	c 26	N83-31795 *	US-PATENT-CLASS-428-680	c 24	N85-35233 *
US-PATENT-CLASS-428-325	c 27	N82-29456 *	US-PATENT-CLASS-428-451	c 27	N79-18052 *	US-PATENT-CLASS-428-681	c 24	N85-21266 *
US-PATENT-CLASS-428-325	c 44	N83-34448 *	US-PATENT-CLASS-428-457	c 27	N76-16229 *	US-PATENT-CLASS-428-681	c 24	N85-35233 *
US-PATENT-CLASS-428-328	c 24	N77-27188 *	US-PATENT-CLASS-428-457	c 24	N77-27188 *	US-PATENT-CLASS-428-682	c 24	N85-21266 *
US-PATENT-CLASS-428-331	c 27	N78-32260 *	US-PATENT-CLASS-428-457	c 24	N77-28225 *	US-PATENT-CLASS-428-682	c 24	N85-35233 *
US-PATENT-CLASS-428-331	c 27	N83-18908 *	US-PATENT-CLASS-428-457	c 26	N82-30371 *	US-PATENT-CLASS-428-683	c 24	N85-21266 *
US-PATENT-CLASS-428-332	c 27	N76-22377 *	US-PATENT-CLASS-428-458	c 24	N77-28225 *	US-PATENT-CLASS-428-684	c 24	N85-21266 *
US-PATENT-CLASS-428-332	c 27	N76-23426 *	US-PATENT-CLASS-428-458	c 24	N79-16915 *	US-PATENT-CLASS-428-698	c 76	N85-33826 *
US-PATENT-CLASS-428-332	c 24	N78-27180 *	US-PATENT-CLASS-428-458	c 27	N86-20561 *	US-PATENT-CLASS-428-698	c 26	N85-35267 *
US-PATENT-CLASS-428-332	c 27	N79-12221 *	US-PATENT-CLASS-428-461	c 34	N77-18382 *	US-PATENT-CLASS-428-702	c 27	N86-19458 *
US-PATENT-CLASS-428-332	c 24	N79-25142 *	US-PATENT-CLASS-428-462	c 27	N82-24340 *	US-PATENT-CLASS-428-702	c 27	N87-23736 *
US-PATENT-CLASS-428-332	c 27	N82-24340 *	US-PATENT-CLASS-428-466	c 27	N82-24340 *	US-PATENT-CLASS-428-704	c 26	N85-35267 *
US-PATENT-CLASS-428-334	c 74	N78-15879 *	US-PATENT-CLASS-428-469	c 27	N76-16229 *	US-PATENT-CLASS-428-704	c 27	N87-16909 *
US-PATENT-CLASS-428-336	c 74	N78-15879 *	US-PATENT-CLASS-428-469	c 26	N83-31795 *	US-PATENT-CLASS-428-704	c 24	N78-15180 *
US-PATENT-CLASS-428-336	c 27	N86-31727 *	US-PATENT-CLASS-428-471	c 26	N81-25188 *	US-PATENT-CLASS-428-71	c 03	N84-33394 *
US-PATENT-CLASS-428-339	c 27	N82-24340 *	US-PATENT-CLASS-428-472	c 26	N82-30371 *	US-PATENT-CLASS-428-71	c 27	N89-12741 *
US-PATENT-CLASS-428-341	c 27	N78-32260 *	US-PATENT-CLASS-428-473.5	c 27	N81-14078 *	US-PATENT-CLASS-428-73	c 24	N78-10214 *
US-PATENT-CLASS-428-347	c 27	N84-14323 *	US-PATENT-CLASS-428-473.5	c 27	N81-29229 *	US-PATENT-CLASS-428-73	c 24	N78-15180 *
US-PATENT-CLASS-428-35	c 34	N77-18382 *	US-PATENT-CLASS-428-473.5	c 27	N84-14322 *	US-PATENT-CLASS-428-73	c 24	N79-16915 *
US-PATENT-CLASS-428-366	c 24	N79-24062 *	US-PATENT-CLASS-428-473.5	c 27	N86-19458 *	US-PATENT-CLASS-428-74	c 24	N88-18628 *
US-PATENT-CLASS-428-367	c 27	N81-27272 *	US-PATENT-CLASS-428-473.5	c 27	N86-20561 *	US-PATENT-CLASS-428-76	c 03	N84-33394 *
US-PATENT-CLASS-428-367	c 24	N83-33950 *	US-PATENT-CLASS-428-473.5	c 24	N86-25416 *	US-PATENT-CLASS-428-76	c 24	N88-18628 *
US-PATENT-CLASS-428-367	c 27	N84-14322 *	US-PATENT-CLASS-428-473.5	c 27	N86-31726 *	US-PATENT-CLASS-428-76	c 27	N89-12741 *
US-PATENT-CLASS-428-367	c 27	N87-28656 *	US-PATENT-CLASS-428-473.5	c 27	N86-31727 *	US-PATENT-CLASS-428-77	c 27	N76-14264 *
US-PATENT-CLASS-428-368	c 24	N77-27188 *	US-PATENT-CLASS-428-473.5	c 27	N87-16909 *	US-PATENT-CLASS-428-77	c 27	N79-12221 *
US-PATENT-CLASS-428-368	c 27	N83-18908 *	US-PATENT-CLASS-428-473.5	c 27	N87-23736 *	US-PATENT-CLASS-428-78	c 27	N84-14323 *
US-PATENT-CLASS-428-370	c 27	N84-22745 *	US-PATENT-CLASS-428-474	c 34	N77-18382 *	US-PATENT-CLASS-428-902	c 24	N77-27188 *
US-PATENT-CLASS-428-375	c 24	N79-16915 *	US-PATENT-CLASS-428-474.4	c 24	N86-25416 *	US-PATENT-CLASS-428-902	c 24	N78-10214 *
US-PATENT-CLASS-428-375	c 24	N83-33950 *	US-PATENT-CLASS-428-474	c 27	N79-33316 *	US-PATENT-CLASS-428-902	c 24	N78-17149 *
US-PATENT-CLASS-428-392	c 24	N83-33950 *	US-PATENT-CLASS-428-474	c 27	N80-24437 *	US-PATENT-CLASS-428-902	c 24	N81-14000 *
US-PATENT-CLASS-428-406	c 27	N78-32260 *	US-PATENT-CLASS-428-477.7	c 24	N86-25416 *	US-PATENT-CLASS-428-902	c 31	N81-25258 *
US-PATENT-CLASS-428-408	c 27	N81-27272 *	US-PATENT-CLASS-428-477	c 27	N89-12741 *	US-PATENT-CLASS-428-902	c 27	N81-27272 *
US-PATENT-CLASS-428-408	c 27	N84-14322 *	US-PATENT-CLASS-428-480	c 24	N81-14000 *	US-PATENT-CLASS-428-902	c 27	N83-18908 *
US-PATENT-CLASS-428-408	c 27	N84-22745 *	US-PATENT-CLASS-428-493	c 27	N82-24340 *	US-PATENT-CLASS-428-902	c 24	N83-33950 *
US-PATENT-CLASS-428-408	c 27	N85-34281 *	US-PATENT-CLASS-428-49	c 27	N82-24339 *	US-PATENT-CLASS-428-902	c 27	N84-14322 *
US-PATENT-CLASS-428-408	c 24	N86-28131 *	US-PATENT-CLASS-428-49	c 27	N82-29456 *	US-PATENT-CLASS-428-902	c 27	N84-22745 *
US-PATENT-CLASS-428-40	c 27	N84-14323 *	US-PATENT-CLASS-428-500	c 27	N80-32516 *	US-PATENT-CLASS-428-903	c 24	N83-33950 *
US-PATENT-CLASS-428-410	c 23	N86-19376 *	US-PATENT-CLASS-428-500	c 27	N87-16909 *	US-PATENT-CLASS-428-911	c 27	N76-16230 *
US-PATENT-CLASS-428-411	c 27	N78-14164 *	US-PATENT-CLASS-428-515	c 27	N78-31233 *	US-PATENT-CLASS-428-911	c 24	N77-27188 *
US-PATENT-CLASS-428-411	c 27	N78-31233 *	US-PATENT-CLASS-428-522	c 27	N78-14164 *	US-PATENT-CLASS-428-913	c 34	N78-25350 *
US-PATENT-CLASS-428-411	c 27	N79-14214 *	US-PATENT-CLASS-428-523	c 27	N78-31233 *	US-PATENT-CLASS-428-913	c 27	N83-18908 *
US-PATENT-CLASS-428-412	c 27	N76-16230 *	US-PATENT-CLASS-428-528	c 24	N81-13999 *	US-PATENT-CLASS-428-913	c 76	N85-33826 *
US-PATENT-CLASS-428-412	c 27	N78-31233 *	US-PATENT-CLASS-428-538	c 27	N76-22377 *	US-PATENT-CLASS-428-920	c 27	N76-16230 *
US-PATENT-CLASS-428-412	c 74	N78-32854 *	US-PATENT-CLASS-428-538	c 27	N76-23426 *	US-PATENT-CLASS-428-920	c 27	N76-22377 *
US-PATENT-CLASS-428-412	c 27	N79-18052 *	US-PATENT-CLASS-428-538	c 27	N78-31233 *	US-PATENT-CLASS-428-920	c 27	N76-23426 *
US-PATENT-CLASS-428-413	c 27	N76-16230 *	US-PATENT-CLASS-428-539	c 27	N76-16229 *	US-PATENT-CLASS-428-920	c 24	N78-15180 *
US-PATENT-CLASS-428-413	c 15	N79-26100 *	US-PATENT-CLASS-428-541	c 24	N81-13999 *	US-PATENT-CLASS-428-920	c 27	N78-32260 *
US-PATENT-CLASS-428-413	c 24	N81-14000 *	US-PATENT-CLASS-428-564	c 26	N84-33555 *	US-PATENT-CLASS-428-920	c 27	N79-12221 *
US-PATENT-CLASS-428-413	c 27	N85-34281 *	US-PATENT-CLASS-428-58	c 27	N89-12741 *	US-PATENT-CLASS-428-920	c 24	N79-25142 *
US-PATENT-CLASS-428-413	c 27	N87-25469 *	US-PATENT-CLASS-428-593	c 24	N82-24296 *	US-PATENT-CLASS-428-920	c 15	N79-26100 *
US-PATENT-CLASS-428-414	c 15	N79-26100 *	US-PATENT-CLASS-428-593	c 24	N84-11214 *	US-PATENT-CLASS-428-920	c 27	N81-27272 *
US-PATENT-CLASS-428-416	c 27	N76-14264 *	US-PATENT-CLASS-428-594	c 24	N82-24296 *	US-PATENT-CLASS-428-920	c 27	N83-18908 *
US-PATENT-CLASS-428-417	c 27	N87-25469 *	US-PATENT-CLASS-428-594	c 24	N82-32417 *	US-PATENT-CLASS-428-920	c 27	N84-14322 *
US-PATENT-CLASS-428-418	c 24	N77-27188 *	US-PATENT-CLASS-428-595	c 18	N84-33450 *	US-PATENT-CLASS-428-920	c 27	N84-22745 *
US-PATENT-CLASS-428-418	c 15	N79-26100 *	US-PATENT-CLASS-428-604	c 24	N82-24296 *	US-PATENT-CLASS-428-920	c 24	N88-18628 *
US-PATENT-CLASS-428-421	c 34	N77-18382 *	US-PATENT-CLASS-428-604	c 24	N82-32417 *	US-PATENT-CLASS-428-921	c 27	N76-16230 *
US-PATENT-CLASS-428-421	c 15	N79-26100 *	US-PATENT-CLASS-428-607	c 24	N82-32417 *	US-PATENT-CLASS-428-921	c 24	N78-27180 *
US-PATENT-CLASS-428-421	c 27	N80-24437 *	US-PATENT-CLASS-428-607	c 26	N87-25455 *	US-PATENT-CLASS-428-921	c 24	N81-13999 *
US-PATENT-CLASS-428-421	c 76	N83-34796 *	US-PATENT-CLASS-428-608	c 24	N82-32417 *	US-PATENT-CLASS-428-921	c 03	N84-33394 *
US-PATENT-CLASS-428-421	c 27	N87-16909 *	US-PATENT-CLASS-428-623	c 27	N83-31855 *	US-PATENT-CLASS-428-921	c 24	N86-28131 *
US-PATENT-CLASS-428-421	c 27	N87-23736 *	US-PATENT-CLASS-428-629	c 44	N80-16452 *	US-PATENT-CLASS-428-922	c 27	N78-14164 *
US-PATENT-CLASS-428-422	c 27	N78-31233 *	US-PATENT-CLASS-428-632	c 26	N81-25188 *	US-PATENT-CLASS-428-938	c 27	N82-28441 *
US-PATENT-CLASS-428-422	c 76	N83-34796 *	US-PATENT-CLASS-428-632	c 26	N84-27855 *	US-PATENT-CLASS-428-93	c 34	N78-25350 *
US-PATENT-CLASS-428-422	c 27	N87-23736 *	US-PATENT-CLASS-428-632	c 26	N87-25455 *	US-PATENT-CLASS-428-941	c 27	N82-28441 *
US-PATENT-CLASS-428-423.5	c 03	N84-33394 *	US-PATENT-CLASS-428-633	c 34	N78-18355 *	US-PATENT-CLASS-428-94	c 34	N78-25350 *
US-PATENT-CLASS-428-425	c 24	N77-28225 *	US-PATENT-CLASS-428-633	c 27	N83-31855 *	US-PATENT-CLASS-428-95	c 34	N78-25350 *
US-PATENT-CLASS-428-426	c 74	N78-15879 *	US-PATENT-CLASS-428-633	c 24	N85-21266 *	US-PATENT-CLASS-428-96	c 34	N78-25350 *
US-PATENT-CLASS-428-427	c 27	N78-32260 *	US-PATENT-CLASS-428-633	c 24	N85-35233 *	US-PATENT-CLASS-428-97	c 34	N78-25350 *
US-PATENT-CLASS-428-427	c 44	N83-34448 *	US-PATENT-CLASS-428-639	c 26	N84-33555 *	US-PATENT-CLASS-429-101	c 44	N79-17313 *
US-PATENT-CLASS-428-428	c 27	N76-22377 *	US-PATENT-CLASS-428-63	c 24	N83-13172 *	US-PATENT-CLASS-429-101	c 44	N79-26474 *
US-PATENT-CLASS-428-428	c 27	N76-23426 *	US-PATENT-CLASS-428-641	c 26	N83-31795 *	US-PATENT-CLASS-429-101	c 33	N80-20487 *
US-PATENT-CLASS-428-428	c 74	N78-15879 *	US-PATENT-CLASS-428-650	c 44	N80-16452 *	US-PATENT-CLASS-429-105	c 44	N77-22606 *
US-PATENT-CLASS-428-428	c 27	N78-32260 *	US-PATENT-CLASS-428-650	c 26	N83-31795 *	US-PATENT-CLASS-429-105	c 33	N80-20487 *



US-PATENT-CLASS-429-105	c 44	N83-27344 *	US-PATENT-CLASS-433-86	c 52	N82-29862 *	US-PATENT-CLASS-455-73	c 32	N85-29118 *
US-PATENT-CLASS-429-107	c 44	N77-22606 *	US-PATENT-CLASS-434-114	c 82	N87-29372 *	US-PATENT-CLASS-455-98	c 32	N89-14374 *
US-PATENT-CLASS-429-107	c 33	N80-20487 *	US-PATENT-CLASS-434-242	c 09	N85-19990 *	US-PATENT-CLASS-467-28	c 39	N80-10507 *
US-PATENT-CLASS-429-107	c 44	N83-27344 *	US-PATENT-CLASS-434-243	c 09	N85-19990 *	US-PATENT-CLASS-47-1.2	c 51	N75-25503 *
US-PATENT-CLASS-429-109	c 33	N80-20487 *	US-PATENT-CLASS-434-2	c 32	N84-27951 *	US-PATENT-CLASS-47-1.4	c 31	N73-32750 *
US-PATENT-CLASS-429-109	c 44	N83-27344 *	US-PATENT-CLASS-434-34	c 14	N87-25344 *	US-PATENT-CLASS-47-17	c 31	N73-32750 *
US-PATENT-CLASS-429-109	c 44	N86-19721 *	US-PATENT-CLASS-434-35	c 09	N85-19990 *	US-PATENT-CLASS-47-26	c 37	N83-26078 *
US-PATENT-CLASS-429-111	c 25	N84-12262 *	US-PATENT-CLASS-434-38	c 36	N83-34304 *	US-PATENT-CLASS-47-39	c 51	N75-25503 *
US-PATENT-CLASS-429-111	c 44	N84-23019 *	US-PATENT-CLASS-434-403	c 31	N83-34073 *	US-PATENT-CLASS-47-58	c 51	N75-25503 *
US-PATENT-CLASS-429-120	c 44	N81-24521 *	US-PATENT-CLASS-434-42	c 09	N82-24212 *	US-PATENT-CLASS-47-58	c 51	N83-17045 *
US-PATENT-CLASS-429-139	c 27	N80-32516 *	US-PATENT-CLASS-434-43	c 09	N82-24212 *	US-PATENT-CLASS-47-58	c 45	N84-12654 *
US-PATENT-CLASS-429-139	c 27	N81-24257 *	US-PATENT-CLASS-434-49	c 09	N85-19990 *	US-PATENT-CLASS-474-205	c 37	N80-32717 *
US-PATENT-CLASS-429-13	c 44	N79-10513 *	US-PATENT-CLASS-434-4	c 36	N83-34304 *	US-PATENT-CLASS-474-220	c 37	N87-17034 *
US-PATENT-CLASS-429-144	c 44	N82-29708 *	US-PATENT-CLASS-434-4	c 35	N86-32697 *	US-PATENT-CLASS-48-DIG.8	c 28	N80-10374 *
US-PATENT-CLASS-429-144	c 44	N83-32176 *	US-PATENT-CLASS-434-59	c 54	N81-27806 *	US-PATENT-CLASS-48-10-3	c 28	N80-10374 *
US-PATENT-CLASS-429-15	c 44	N79-26474 *	US-PATENT-CLASS-434-88	c 31	N83-34073 *	US-PATENT-CLASS-48-102A	c 28	N80-10374 *
US-PATENT-CLASS-429-160	c 44	N86-19721 *	US-PATENT-CLASS-435-160	c 23	N85-35227 *	US-PATENT-CLASS-48-107	c 28	N80-10374 *
US-PATENT-CLASS-429-160	c 44	N81-24521 *	US-PATENT-CLASS-435-289	c 51	N80-27067 *	US-PATENT-CLASS-48-116	c 44	N76-18642 *
US-PATENT-CLASS-429-164	c 44	N81-24521 *	US-PATENT-CLASS-435-289	c 51	N83-27569 *	US-PATENT-CLASS-48-116	c 44	N77-10636 *
US-PATENT-CLASS-429-190	c 44	N77-22606 *	US-PATENT-CLASS-435-290	c 51	N80-27067 *	US-PATENT-CLASS-48-117	c 44	N76-18642 *
US-PATENT-CLASS-429-193	c 44	N82-29710 *	US-PATENT-CLASS-435-291	c 51	N80-27067 *	US-PATENT-CLASS-48-117	c 44	N77-10636 *
US-PATENT-CLASS-429-19	c 44	N86-19721 *	US-PATENT-CLASS-435-291	c 51	N81-28698 *	US-PATENT-CLASS-48-117	c 28	N80-10374 *
US-PATENT-CLASS-429-206	c 25	N83-13188 *	US-PATENT-CLASS-435-291	c 35	N82-28604 *	US-PATENT-CLASS-48-197-R	c 25	N86-25428 *
US-PATENT-CLASS-429-206	c 33	N84-14422 *	US-PATENT-CLASS-435-291	c 51	N83-27569 *	US-PATENT-CLASS-48-197R	c 44	N76-29704 *
US-PATENT-CLASS-429-206	c 33	N85-29144 *	US-PATENT-CLASS-435-311	c 51	N80-27067 *	US-PATENT-CLASS-48-197R	c 44	N77-10636 *
US-PATENT-CLASS-429-223	c 26	N84-22734 *	US-PATENT-CLASS-435-316	c 51	N80-27067 *	US-PATENT-CLASS-48-212	c 44	N77-10636 *
US-PATENT-CLASS-429-223	c 33	N84-14422 *	US-PATENT-CLASS-435-32	c 51	N80-27067 *	US-PATENT-CLASS-48-215	c 44	N76-29700 *
US-PATENT-CLASS-429-234	c 26	N84-22734 *	US-PATENT-CLASS-435-34	c 51	N80-16714 *	US-PATENT-CLASS-48-61	c 44	N77-10636 *
US-PATENT-CLASS-429-23	c 44	N77-14581 *	US-PATENT-CLASS-435-34	c 51	N80-27067 *	US-PATENT-CLASS-48-61	c 28	N80-10374 *
US-PATENT-CLASS-429-249	c 27	N81-24257 *	US-PATENT-CLASS-435-34	c 51	N81-28698 *	US-PATENT-CLASS-48-63	c 44	N76-18642 *
US-PATENT-CLASS-429-249	c 23	N81-29160 *	US-PATENT-CLASS-435-34	c 35	N82-28604 *	US-PATENT-CLASS-48-75	c 44	N76-18642 *
US-PATENT-CLASS-429-249	c 33	N85-29144 *	US-PATENT-CLASS-435-34	c 51	N83-27569 *	US-PATENT-CLASS-48-89	c 44	N82-16475 *
US-PATENT-CLASS-429-251	c 44	N82-29708 *	US-PATENT-CLASS-435-34	c 51	N83-28849 *	US-PATENT-CLASS-48-95	c 44	N76-18642 *
US-PATENT-CLASS-429-251	c 44	N83-32176 *	US-PATENT-CLASS-435-38	c 51	N80-27067 *	US-PATENT-CLASS-48-95	c 44	N76-29700 *
US-PATENT-CLASS-429-253	c 44	N79-25481 *	US-PATENT-CLASS-435-38	c 51	N83-27569 *	US-PATENT-CLASS-48-99	c 44	N82-16475 *
US-PATENT-CLASS-429-253	c 27	N81-24257 *	US-PATENT-CLASS-435-38	c 51	N83-28849 *	US-PATENT-CLASS-49-DIG.1	c 34	N78-25350 *
US-PATENT-CLASS-429-253	c 23	N81-29160 *	US-PATENT-CLASS-435-39	c 51	N80-27067 *	US-PATENT-CLASS-49-171	c 31	N81-19343 *
US-PATENT-CLASS-429-253	c 25	N83-13188 *	US-PATENT-CLASS-435-39	c 35	N82-28604 *	US-PATENT-CLASS-49-479	c 34	N78-25350 *
US-PATENT-CLASS-429-254	c 44	N78-25530 *	US-PATENT-CLASS-435-39	c 51	N83-27569 *	US-PATENT-CLASS-49-485	c 34	N78-25350 *
US-PATENT-CLASS-429-254	c 44	N82-29708 *	US-PATENT-CLASS-435-39	c 51	N83-28849 *	US-PATENT-CLASS-49-68	c 18	N74-22136 *
US-PATENT-CLASS-429-254	c 44	N83-32176 *	US-PATENT-CLASS-435-39	c 51	N80-27067 *	US-PATENT-CLASS-5-345	c 05	N70-33285 *
US-PATENT-CLASS-429-27	c 27	N81-24257 *	US-PATENT-CLASS-435-3	c 51	N83-27569 *	US-PATENT-CLASS-5-459	c 03	N84-33394 *
US-PATENT-CLASS-429-27	c 23	N81-29160 *	US-PATENT-CLASS-435-3	c 51	N83-28849 *	US-PATENT-CLASS-5-69	c 05	N72-11085 *
US-PATENT-CLASS-429-27	c 44	N86-25874 *	US-PATENT-CLASS-435-5	c 51	N81-28698 *	US-PATENT-CLASS-5-81-R	c 85	N87-21755 *
US-PATENT-CLASS-429-28	c 27	N81-24257 *	US-PATENT-CLASS-435-807	c 51	N83-28849 *	US-PATENT-CLASS-5-82	c 05	N71-23159 *
US-PATENT-CLASS-429-28	c 23	N81-29160 *	US-PATENT-CLASS-435-842	c 23	N85-35227 *	US-PATENT-CLASS-501-88	c 27	N88-29040 *
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US-PATENT-CLASS-523-454	c 27	N85-34282 *	US-PATENT-CLASS-526-255	c 27	N76-24405 *	US-PATENT-CLASS-528-208	c 27	N82-11206 *
US-PATENT-CLASS-523-456	c 24	N84-11213 *	US-PATENT-CLASS-526-259	c 27	N83-34040 *	US-PATENT-CLASS-528-210	c 27	N82-11206 *
US-PATENT-CLASS-523-458	c 24	N84-34571 *	US-PATENT-CLASS-526-261	c 27	N80-24438 *	US-PATENT-CLASS-528-211	c 27	N82-11206 *
US-PATENT-CLASS-523-458	c 27	N85-34282 *	US-PATENT-CLASS-526-262	c 27	N81-27272 *	US-PATENT-CLASS-528-220	c 27	N83-34040 *
US-PATENT-CLASS-523-461	c 27	N86-27451 *	US-PATENT-CLASS-526-262	c 27	N84-22745 *	US-PATENT-CLASS-528-220	c 27	N84-22746 *
US-PATENT-CLASS-523-66468	c 24	N86-19380 *	US-PATENT-CLASS-526-262	c 27	N84-27885 *	US-PATENT-CLASS-528-220	c 27	N85-20123 *
US-PATENT-CLASS-524-104	c 27	N83-28240 *	US-PATENT-CLASS-526-262	c 27	N85-21347 *	US-PATENT-CLASS-528-220	c 24	N86-25416 *
US-PATENT-CLASS-524-171	c 27	N84-22747 *	US-PATENT-CLASS-526-262	c 27	N85-21350 *	US-PATENT-CLASS-528-220	c 27	N86-31726 * #
US-PATENT-CLASS-524-173	c 27	N83-28240 *	US-PATENT-CLASS-526-262	c 27	N85-21351 *	US-PATENT-CLASS-528-220	c 27	N87-21112 *
US-PATENT-CLASS-524-233	c 27	N83-28240 *	US-PATENT-CLASS-526-262	c 27	N85-21352 *	US-PATENT-CLASS-528-220	c 27	N89-16042 *
US-PATENT-CLASS-524-371	c 27	N84-14324 *	US-PATENT-CLASS-526-262	c 25	N85-28982 *	US-PATENT-CLASS-528-221	c 27	N79-28307 *
US-PATENT-CLASS-524-388	c 27	N85-29044 *	US-PATENT-CLASS-526-262	c 25	N85-30039 *	US-PATENT-CLASS-528-222	c 27	N81-29223 *
US-PATENT-CLASS-524-404	c 27	N87-22845 *	US-PATENT-CLASS-526-262	c 27	N86-20560 *	US-PATENT-CLASS-528-222	c 27	N83-34040 *
US-PATENT-CLASS-524-436	c 27	N83-19900 *	US-PATENT-CLASS-526-262	c 24	N86-21590 *	US-PATENT-CLASS-528-222	c 27	N83-34041 *
US-PATENT-CLASS-524-437	c 27	N83-19900 *	US-PATENT-CLASS-526-262	c 27	N87-22845 *	US-PATENT-CLASS-528-222	c 27	N86-29039 *
US-PATENT-CLASS-524-494	c 27	N84-14322 *	US-PATENT-CLASS-526-265	c 24	N86-28131 *	US-PATENT-CLASS-528-223	c 27	N79-28307 *
US-PATENT-CLASS-524-496	c 27	N84-14322 *	US-PATENT-CLASS-526-274	c 27	N85-21347 *	US-PATENT-CLASS-528-225	c 27	N79-28307 *
US-PATENT-CLASS-524-500	c 27	N84-14322 *	US-PATENT-CLASS-526-275	c 27	N78-32256 *	US-PATENT-CLASS-528-225	c 27	N82-11206 *
US-PATENT-CLASS-524-503	c 27	N83-19900 *	US-PATENT-CLASS-526-275	c 27	N80-24438 *	US-PATENT-CLASS-528-226	c 27	N83-34041 *
US-PATENT-CLASS-524-530	c 27	N84-14322 *	US-PATENT-CLASS-526-276	c 27	N78-32256 *	US-PATENT-CLASS-528-226	c 27	N85-20124 *

US-PATENT-CLASS-528-226	c 27	N85-21348 *	US-PATENT-CLASS-528-353	c 27	N85-34280 *	US-PATENT-CLASS-55-126	c 35	N84-17555 *
US-PATENT-CLASS-528-227	c 27	N79-28307 *	US-PATENT-CLASS-528-353	c 27	N86-19456 *	US-PATENT-CLASS-55-127	c 35	N79-17192 *
US-PATENT-CLASS-528-228	c 27	N81-27272 *	US-PATENT-CLASS-528-353	c 27	N89-16042 *	US-PATENT-CLASS-55-12	c 35	N84-17555 *
US-PATENT-CLASS-528-228	c 27	N82-11206 *	US-PATENT-CLASS-528-361	c 24	N84-11213 *	US-PATENT-CLASS-55-131	c 35	N84-17555 *
US-PATENT-CLASS-528-228	c 27	N83-34040 *	US-PATENT-CLASS-528-362	c 25	N81-14016 *	US-PATENT-CLASS-55-138	c 35	N84-17555 *
US-PATENT-CLASS-528-228	c 27	N84-22745 *	US-PATENT-CLASS-528-362	c 27	N81-17259 *	US-PATENT-CLASS-55-139	c 35	N84-17555 *
US-PATENT-CLASS-528-228	c 27	N89-16042 *	US-PATENT-CLASS-528-362	c 27	N81-17262 *	US-PATENT-CLASS-55-145	c 35	N84-17555 *
US-PATENT-CLASS-528-229	c 27	N79-28307 *	US-PATENT-CLASS-528-362	c 27	N82-24338 *	US-PATENT-CLASS-55-15-8	c 52	N79-14749 *
US-PATENT-CLASS-528-229	c 27	N79-33316 *	US-PATENT-CLASS-528-362	c 27	N84-22744 *	US-PATENT-CLASS-55-155	c 35	N79-17192 *
US-PATENT-CLASS-528-229	c 27	N81-29229 *	US-PATENT-CLASS-528-362	c 27	N84-27884 *	US-PATENT-CLASS-55-158	c 18	N71-20742 *
US-PATENT-CLASS-528-229	c 27	N83-34040 *	US-PATENT-CLASS-528-362	c 27	N87-21112 *	US-PATENT-CLASS-55-158	c 44	N77-22607 *
US-PATENT-CLASS-528-229	c 27	N85-21348 *	US-PATENT-CLASS-528-362	c 27	N83-34040 *	US-PATENT-CLASS-55-158	c 25	N82-21269 *
US-PATENT-CLASS-528-229	c 27	N85-21350 *	US-PATENT-CLASS-528-394	c 27	N84-22750 *	US-PATENT-CLASS-55-159	c 34	N74-30608 *
US-PATENT-CLASS-528-229	c 27	N85-21351 *	US-PATENT-CLASS-528-399	c 27	N81-27271 *	US-PATENT-CLASS-55-159	c 37	N79-21345 *
US-PATENT-CLASS-528-229	c 27	N85-21352 *	US-PATENT-CLASS-528-399	c 27	N82-18389 *	US-PATENT-CLASS-55-15	c 71	N83-35781 *
US-PATENT-CLASS-528-229	c 27	N85-34280 *	US-PATENT-CLASS-528-399	c 27	N84-22750 *	US-PATENT-CLASS-55-15	c 71	N85-22104 *
US-PATENT-CLASS-528-229	c 27	N85-34282 *	US-PATENT-CLASS-528-399	c 23	N86-32525 *	US-PATENT-CLASS-55-160	c 15	N71-15968 *
US-PATENT-CLASS-528-229	c 27	N86-19457 *	US-PATENT-CLASS-528-401	c 27	N79-22300 *	US-PATENT-CLASS-55-16	c 06	N72-31140 *
US-PATENT-CLASS-528-229	c 27	N87-21112 *	US-PATENT-CLASS-528-401	c 25	N81-14016 *	US-PATENT-CLASS-55-179	c 14	N71-17588 *
US-PATENT-CLASS-528-229	c 27	N87-22847 *	US-PATENT-CLASS-528-401	c 27	N81-17259 *	US-PATENT-CLASS-55-179	c 54	N77-32722 *
US-PATENT-CLASS-528-239	c 27	N85-20124 *	US-PATENT-CLASS-528-401	c 27	N81-17262 *	US-PATENT-CLASS-55-194	c 35	N83-29652 *
US-PATENT-CLASS-528-241	c 27	N85-20124 *	US-PATENT-CLASS-528-401	c 27	N82-24338 *	US-PATENT-CLASS-55-197	c 23	N77-17161 *
US-PATENT-CLASS-528-258	c 27	N85-20124 *	US-PATENT-CLASS-528-401	c 23	N82-28353 *	US-PATENT-CLASS-55-199	c 34	N74-30608 *
US-PATENT-CLASS-528-25	c 27	N84-22747 *	US-PATENT-CLASS-528-401	c 27	N84-22744 *	US-PATENT-CLASS-55-202	c 35	N83-29652 *
US-PATENT-CLASS-528-26	c 27	N84-22747 *	US-PATENT-CLASS-528-402	c 25	N82-24312 *	US-PATENT-CLASS-55-204	c 15	N71-23023 *
US-PATENT-CLASS-528-26	c 27	N87-14516 *	US-PATENT-CLASS-528-406	c 23	N86-32525 *	US-PATENT-CLASS-55-204	c 44	N83-10501 *
US-PATENT-CLASS-528-271	c 27	N84-27884 *	US-PATENT-CLASS-528-407	c 24	N84-34571 *	US-PATENT-CLASS-55-206	c 14	N71-18483 *
US-PATENT-CLASS-528-279	c 27	N85-20124 *	US-PATENT-CLASS-528-407	c 27	N85-34281 *	US-PATENT-CLASS-55-241	c 35	N79-17192 *
US-PATENT-CLASS-528-288	c 27	N85-29043 *	US-PATENT-CLASS-528-407	c 27	N85-34282 *	US-PATENT-CLASS-55-242	c 35	N79-17192 *
US-PATENT-CLASS-528-289	c 27	N85-29043 *	US-PATENT-CLASS-528-407	c 23	N86-32525 *	US-PATENT-CLASS-55-255	c 35	N86-29174 *
US-PATENT-CLASS-528-303	c 27	N85-29043 *	US-PATENT-CLASS-528-413	c 27	N79-22300 *	US-PATENT-CLASS-55-259	c 35	N86-29174 *
US-PATENT-CLASS-528-304	c 27	N85-29043 *	US-PATENT-CLASS-528-422	c 27	N79-22300 *	US-PATENT-CLASS-55-26-9	c 35	N78-12390 *
US-PATENT-CLASS-528-30	c 27	N88-29040 *	US-PATENT-CLASS-528-422	c 25	N81-14016 *	US-PATENT-CLASS-55-261	c 35	N78-18401 *
US-PATENT-CLASS-528-310	c 27	N81-17262 *	US-PATENT-CLASS-528-422	c 27	N81-17259 *	US-PATENT-CLASS-55-269	c 54	N77-32722 *
US-PATENT-CLASS-528-310	c 27	N81-24256 *	US-PATENT-CLASS-528-422	c 27	N81-17262 *	US-PATENT-CLASS-55-270	c 35	N84-17555 *
US-PATENT-CLASS-528-310	c 27	N82-24338 *	US-PATENT-CLASS-528-422	c 27	N82-24338 *	US-PATENT-CLASS-55-277	c 71	N83-35781 *
US-PATENT-CLASS-528-310	c 27	N84-27884 *	US-PATENT-CLASS-528-422	c 23	N82-28353 *	US-PATENT-CLASS-55-277	c 71	N85-22104 *
US-PATENT-CLASS-528-310	c 23	N86-19376 *	US-PATENT-CLASS-528-422	c 27	N84-22744 *	US-PATENT-CLASS-55-283	c 35	N84-17555 *
US-PATENT-CLASS-528-314	c 25	N85-30039 *	US-PATENT-CLASS-528-423	c 27	N81-17259 *	US-PATENT-CLASS-55-291	c 35	N84-17555 *
US-PATENT-CLASS-528-315	c 27	N85-21350 *	US-PATENT-CLASS-528-423	c 27	N84-22744 *	US-PATENT-CLASS-55-2	c 25	N78-25148 *
US-PATENT-CLASS-528-321	c 27	N85-21347 *	US-PATENT-CLASS-528-481	c 27	N80-24438 *	US-PATENT-CLASS-55-2	c 28	N81-14103 *
US-PATENT-CLASS-528-321	c 24	N86-25416 *	US-PATENT-CLASS-528-4	c 27	N81-27271 *	US-PATENT-CLASS-55-2	c 35	N84-17555 *
US-PATENT-CLASS-528-321	c 27	N86-31726 *	US-PATENT-CLASS-528-4	c 27	N82-18389 *	US-PATENT-CLASS-55-306	c 28	N70-34788 *
US-PATENT-CLASS-528-321	c 27	N87-16909 *	US-PATENT-CLASS-528-4	c 27	N88-29040 *	US-PATENT-CLASS-55-35	c 05	N70-41297 *
US-PATENT-CLASS-528-321	c 27	N89-16042 *	US-PATENT-CLASS-528-6	c 27	N81-27271 *	US-PATENT-CLASS-55-360	c 35	N79-17192 *
US-PATENT-CLASS-528-322	c 27	N81-17260 *	US-PATENT-CLASS-528-6	c 27	N82-18389 *	US-PATENT-CLASS-55-386	c 35	N75-26334 *
US-PATENT-CLASS-528-322	c 27	N84-22745 *	US-PATENT-CLASS-528-6	c 27	N84-22750 *	US-PATENT-CLASS-55-38	c 71	N83-35781 *
US-PATENT-CLASS-528-322	c 27	N84-27885 *	US-PATENT-CLASS-528-72	c 27	N89-16042 *	US-PATENT-CLASS-55-3	c 35	N78-12390 *
US-PATENT-CLASS-528-322	c 27	N85-21347 *	US-PATENT-CLASS-528-73	c 25	N80-16116 *	US-PATENT-CLASS-55-400	c 11	N71-10777 *
US-PATENT-CLASS-528-322	c 27	N85-21350 *	US-PATENT-CLASS-528-73	c 27	N89-16042 *	US-PATENT-CLASS-55-407	c 35	N79-17192 *
US-PATENT-CLASS-528-322	c 27	N85-21351 *	US-PATENT-CLASS-528-7	c 27	N82-18389 *	US-PATENT-CLASS-55-408	c 15	N70-40062 *
US-PATENT-CLASS-528-322	c 27	N85-21352 *	US-PATENT-CLASS-528-7	c 27	N84-22750 *	US-PATENT-CLASS-55-418	c 15	N71-22721 *
US-PATENT-CLASS-528-322	c 25	N85-28982 *	US-PATENT-CLASS-528-86	c 23	N85-28973 *	US-PATENT-CLASS-55-43	c 34	N74-30608 *
US-PATENT-CLASS-528-322	c 25	N85-30039 *	US-PATENT-CLASS-528-92	c 24	N84-34571 *	US-PATENT-CLASS-55-446	c 15	N72-22489 *
US-PATENT-CLASS-528-322	c 27	N86-19457 *	US-PATENT-CLASS-528-92	c 27	N85-34282 *	US-PATENT-CLASS-55-464	c 15	N72-22489 *
US-PATENT-CLASS-528-322	c 24	N86-25416 *	US-PATENT-CLASS-528-94	c 27	N85-34281 *	US-PATENT-CLASS-55-466	c 35	N84-17555 *
US-PATENT-CLASS-528-322	c 27	N86-31726 *	US-PATENT-CLASS-528-94	c 27	N86-19457 *	US-PATENT-CLASS-55-493	c 14	N72-23457 *
US-PATENT-CLASS-528-322	c 27	N87-16909 *	US-PATENT-CLASS-53-102	c 15	N71-21528 *	US-PATENT-CLASS-55-498	c 14	N72-23457 *
US-PATENT-CLASS-528-322	c 27	N87-21112 *	US-PATENT-CLASS-53-112A	c 15	N73-27405 *	US-PATENT-CLASS-55-502	c 14	N72-23457 *
US-PATENT-CLASS-528-322	c 27	N89-16042 *	US-PATENT-CLASS-53-22A	c 15	N73-27405 *	US-PATENT-CLASS-55-510	c 25	N74-12813 *
US-PATENT-CLASS-528-327	c 27	N84-27884 *	US-PATENT-CLASS-53-22	c 15	N71-23256 *	US-PATENT-CLASS-55-518	c 25	N74-12813 *
US-PATENT-CLASS-528-327	c 27	N86-19455 *	US-PATENT-CLASS-53-429	c 09	N82-29330 *	US-PATENT-CLASS-55-521	c 14	N72-23457 *
US-PATENT-CLASS-528-327	c 27	N87-21112 *	US-PATENT-CLASS-53-9	c 37	N77-23482 *	US-PATENT-CLASS-55-521	c 35	N86-29174 *
US-PATENT-CLASS-528-328	c 27	N82-24338 *	US-PATENT-CLASS-536-105	c 27	N77-30236 *	US-PATENT-CLASS-55-523	c 34	N76-27515 *
US-PATENT-CLASS-528-331	c 27	N79-28307 *	US-PATENT-CLASS-536-536-85	c 27	N77-30236 *	US-PATENT-CLASS-55-526	c 34	N76-27515 *
US-PATENT-CLASS-528-331	c 27	N84-27884 *	US-PATENT-CLASS-536-56	c 27	N77-30236 *	US-PATENT-CLASS-55-528	c 35	N86-29174 *
US-PATENT-CLASS-528-331	c 27	N87-21112 *	US-PATENT-CLASS-536-58	c 27	N77-30236 *	US-PATENT-CLASS-55-52	c 71	N83-35781 *
US-PATENT-CLASS-528-336	c 27	N79-28307 *	US-PATENT-CLASS-536-84	c 27	N77-30236 *	US-PATENT-CLASS-55-55	c 06	N72-31140 *
US-PATENT-CLASS-528-336	c 27	N85-20123 *	US-PATENT-CLASS-538-117	c 27	N81-17260 *	US-PATENT-CLASS-55-66	c 25	N80-23383 *
US-PATENT-CLASS-528-336	c 27	N85-21350 *	US-PATENT-CLASS-544-193	c 27	N78-15276 *	US-PATENT-CLASS-55-67	c 23	N77-17161 *
US-PATENT-CLASS-528-336	c 27	N86-32568 *	US-PATENT-CLASS-544-193	c 27	N79-28307 *	US-PATENT-CLASS-55-67	c 25	N80-23383 *
US-PATENT-CLASS-528-337	c 27	N79-28307 *	US-PATENT-CLASS-544-195	c 27	N78-32256 *	US-PATENT-CLASS-55-68	c 25	N80-23383 *
US-PATENT-CLASS-528-337	c 23	N86-32525 *	US-PATENT-CLASS-544-215	c 27	N84-22744 *	US-PATENT-CLASS-55-6	c 35	N84-17555 *
US-PATENT-CLASS-528-337	c 27	N86-32568 *	US-PATENT-CLASS-546-262	c 27	N87-22847 *	US-PATENT-CLASS-55-72	c 25	N80-23383 *
US-PATENT-CLASS-528-338	c 27	N79-28307 *	US-PATENT-CLASS-546-264	c 27	N87-22847 *	US-PATENT-CLASS-55-73	c 45	N79-12584 *
US-PATENT-CLASS-528-340	c 27	N86-32568 *	US-PATENT-CLASS-546-339	c 27	N87-16908 *	US-PATENT-CLASS-55-74	c 23	N77-17161 *
US-PATENT-CLASS-528-341	c 27	N86-29039 *	US-PATENT-CLASS-546-346	c 27	N87-16908 *	US-PATENT-CLASS-55-75	c 15	N71-26185 *
US-PATENT-CLASS-528-342	c 27	N79-28307 *	US-PATENT-CLASS-546-350	c 27	N87-16908 *	US-PATENT-CLASS-55-96	c 35	N84-17555 *
US-PATENT-CLASS-528-342	c 27	N84-27885 *	US-PATENT-CLASS-547-131	c 23	N82-28353 *	US-PATENT-CLASS-556-410	c 25	N85-21280 *
US-PATENT-CLASS-528-342	c 27	N85-21350 *	US-PATENT-CLASS-548-413	c 27	N83-31854 *	US-PATENT-CLASS-556-436	c 27	N86-21675 *
US-PATENT-CLASS-528-342	c 27	N85-21351 *	US-PATENT-CLASS-548-413	c 23	N86-19376 *	US-PATENT-CLASS-558-145	c 23	N87-28605 *
US-PATENT-CLASS-528-342	c 27	N85-21352 *	US-PATENT-CLASS-548-413	c 23	N87-23751 *	US-PATENT-CLASS-558-190	c 23	N87-28605 *
US-PATENT-CLASS-528-342	c 25	N85-28982 *	US-PATENT-CLASS-548-415	c 27	N83-31854 *	US-PATENT-CLASS-558-193	c 23	N87-28605 *
US-PATENT-CLASS-528-342	c 27	N86-19457 *	US-PATENT-CLASS-548-415	c 27	N84-22745 *	US-PATENT-CLASS-558-80	c 23	N88-24692 *
US-PATENT-CLASS-528-345	c 27	N84-22746 *	US-PATENT-CLASS-549-241	c 23	N88-26404 *	US-PATENT-CLASS-56-73	c 74	N86-26190 *
US-PATENT-CLASS-528-345	c 27	N85-20123 *	US-PATENT-CLASS-549-335	c 23	N83-31857 *	US-PATENT-CLASS-560-104	c 27	N87-16907 *
US-PATENT-CLASS-528-347	c 27	N86-32568 *	US-PATENT-CLASS-55-DIG.25	c 35	N84-17555 *	US-PATENT-CLASS-564-113	c 23	N86-19376 *
US-PATENT-CLASS-528-348	c 27	N84-22746 *	US-PATENT-CLASS-55-DIG.30	c 35	N84-17555 *	US-PATENT-CLASS-564-13	c 23	N88-24692 *
US-PATENT-CLASS-528-351	c 27	N82-11206 *	US-PATENT-CLASS-55-DIG.35	c 54	N75-27761 *	US-PATENT-CLASS-564-15	c 27	N86-32568 *
US-PATENT-CLASS-528-352	c 27	N85-21348 *	US-PATENT-CLASS-55-DIG.42	c 37	N85-29283 *	US-PATENT-CLASS-564-229	c 27	N81-24256 *
US-PATENT-CLASS-528-352	c 27	N85-34280 *	US-PATENT-CLASS-55-100	c 35	N78-12390 *	US-PATENT-CLASS-564-229	c 23	N82-28353 *
US-PATENT-CLASS-528-352	c 27	N86-19456 *	US-PATENT-CLASS-55-100	c 25	N78-25148 *	US-PATENT-CLASS-564-243	c 27	N84-22744 *
US-PATENT-CLASS-528-352	c 23	N86-32525 *	US-PATENT-CLASS-55-101	c 25	N78-25148 *	US-PATENT-CLASS-564-243	c 23	N86-21582 *
US-PATENT-CLASS-528-353	c 27	N81-19296 *	US-PATENT-CLASS-55-105	c 35	N84-17555 *	US-PATENT-CLASS-564-315	c 23	N89-12667 *
US-PATENT-CLASS-528-353	c 27	N82-11206 *	US-PATENT-CLASS-55-118	c 35	N79-17192 *	US-PATENT-CLASS-564-323	c 23	N89-12667 *
US-PATENT-CLASS-528-353	c 27	N85-21348 *	US-PATENT-CLASS-55-122	c 35	N79-17192 *	US-PATENT-CLASS-564-330	c 27	N87-22847 *

US-PATENT-CLASS-564-330	c 23	N89-12667 *	US-PATENT-CLASS-60-257	c 31	N70-41948 *	US-PATENT-CLASS-60-37	c 15	N73-13467 *
US-PATENT-CLASS-564-342	c 23	N89-12667 *	US-PATENT-CLASS-60-258	c 15	N70-22192 *	US-PATENT-CLASS-60-39.02	c 07	N86-20389 *
US-PATENT-CLASS-564-344	c 23	N89-12667 *	US-PATENT-CLASS-60-258	c 28	N71-22983 *	US-PATENT-CLASS-60-39.03	c 07	N77-23106 *
US-PATENT-CLASS-564-396	c 27	N87-22847 *	US-PATENT-CLASS-60-258	c 28	N71-28849 *	US-PATENT-CLASS-60-39.06	c 07	N80-18039 *
US-PATENT-CLASS-564-396	c 23	N89-12667 *	US-PATENT-CLASS-60-258	c 15	N72-25455 *	US-PATENT-CLASS-60-39.06	c 07	N80-26298 *
US-PATENT-CLASS-564-430	c 27	N87-22847 *	US-PATENT-CLASS-60-258	c 20	N74-13502 *	US-PATENT-CLASS-60-39.07	c 07	N81-29129 *
US-PATENT-CLASS-564-430	c 23	N89-12667 *	US-PATENT-CLASS-60-258	c 20	N87-14420 *	US-PATENT-CLASS-60-39.07	c 07	N82-32366 *
US-PATENT-CLASS-568-14	c 27	N86-32568 *	US-PATENT-CLASS-60-259	c 28	N70-41275 *	US-PATENT-CLASS-60-39.07	c 07	N83-36029 *
US-PATENT-CLASS-568-2	c 27	N82-18389 *	US-PATENT-CLASS-60-259	c 20	N74-13502 *	US-PATENT-CLASS-60-39.07	c 07	N86-20389 *
US-PATENT-CLASS-568-445	c 23	N82-16174 *	US-PATENT-CLASS-60-259	c 34	N77-30399 *	US-PATENT-CLASS-60-39.14	c 44	N78-32539 *
US-PATENT-CLASS-568-497	c 23	N82-16174 *	US-PATENT-CLASS-60-259	c 05	N81-26114 *	US-PATENT-CLASS-60-39.23	c 20	N76-14190 *
US-PATENT-CLASS-568-4	c 27	N82-18389 *	US-PATENT-CLASS-60-259	c 15	N73-24513 *	US-PATENT-CLASS-60-39.23	c 07	N85-35195 *
US-PATENT-CLASS-568-5	c 27	N84-22750 *	US-PATENT-CLASS-60-259	c 37	N74-21060 *	US-PATENT-CLASS-60-39.24	c 07	N81-19115 *
US-PATENT-CLASS-568-5	c 27	N82-18389 *	US-PATENT-CLASS-60-259	c 28	N70-41992 *	US-PATENT-CLASS-60-39.24	c 07	N80-18039 *
US-PATENT-CLASS-568-852	c 27	N80-32514 *	US-PATENT-CLASS-60-259	c 28	N72-18766 *	US-PATENT-CLASS-60-39.27	c 07	N73-19793 *
US-PATENT-CLASS-568-861	c 27	N80-32514 *	US-PATENT-CLASS-60-260	c 28	N78-17384 *	US-PATENT-CLASS-60-39.28R	c 28	N77-23106 *
US-PATENT-CLASS-57-906	c 37	N82-18601 *	US-PATENT-CLASS-60-260	c 37	N78-17384 *	US-PATENT-CLASS-60-39.28R	c 37	N78-10467 *
US-PATENT-CLASS-570-123	c 25	N82-24312 *	US-PATENT-CLASS-60-260	c 07	N78-18067 *	US-PATENT-CLASS-60-39.28R	c 37	N78-24545 *
US-PATENT-CLASS-570-129	c 25	N82-24312 *	US-PATENT-CLASS-60-261	c 07	N83-33884 *	US-PATENT-CLASS-60-39.28R	c 37	N79-11403 *
US-PATENT-CLASS-58-24	c 10	N71-26326 *	US-PATENT-CLASS-60-262	c 28	N71-24321 *	US-PATENT-CLASS-60-39.29	c 20	N76-14190 *
US-PATENT-CLASS-585-24	c 27	N86-21675 *	US-PATENT-CLASS-60-262	c 07	N77-28118 *	US-PATENT-CLASS-60-39.29	c 35	N76-14431 *
US-PATENT-CLASS-60-39.08	c 37	N79-11403 *	US-PATENT-CLASS-60-263	c 07	N80-32392 *	US-PATENT-CLASS-60-39.29	c 07	N82-32366 *
US-PATENT-CLASS-60-108	c 33	N71-16104 *	US-PATENT-CLASS-60-263	c 07	N71-20942 *	US-PATENT-CLASS-60-39.29	c 07	N84-33410 *
US-PATENT-CLASS-60-1	c 15	N72-33477 *	US-PATENT-CLASS-60-264	c 33	N72-25911 *	US-PATENT-CLASS-60-39.31	c 07	N78-18066 *
US-PATENT-CLASS-60-1	c 15	N73-13467 *	US-PATENT-CLASS-60-265	c 20	N73-25952 *	US-PATENT-CLASS-60-39.31	c 07	N79-14096 *
US-PATENT-CLASS-60-200A	c 33	N72-25911 *	US-PATENT-CLASS-60-265	c 33	N76-14191 *	US-PATENT-CLASS-60-39.33	c 44	N78-32539 *
US-PATENT-CLASS-60-200A	c 33	N73-25952 *	US-PATENT-CLASS-60-265	c 33	N71-28852 *	US-PATENT-CLASS-60-39.36	c 28	N71-20330 *
US-PATENT-CLASS-60-200A	c 27	N78-17206 *	US-PATENT-CLASS-60-266	c 33	N72-25911 *	US-PATENT-CLASS-60-39.36	c 28	N71-28915 *
US-PATENT-CLASS-60-200R	c 20	N82-18314 *	US-PATENT-CLASS-60-266	c 33	N73-25952 *	US-PATENT-CLASS-60-39.46M	c 20	N82-18314 *
US-PATENT-CLASS-60-200	c 28	N71-14044 *	US-PATENT-CLASS-60-267	c 33	N73-25952 *	US-PATENT-CLASS-60-39.465	c 20	N86-26368 *
US-PATENT-CLASS-60-202	c 28	N70-41922 *	US-PATENT-CLASS-60-267	c 33	N76-14191 *	US-PATENT-CLASS-60-39.46	c 27	N71-15635 *
US-PATENT-CLASS-60-202	c 28	N71-10574 *	US-PATENT-CLASS-60-267	c 33	N71-29053 *	US-PATENT-CLASS-60-39.47	c 15	N74-27360 *
US-PATENT-CLASS-60-202	c 25	N71-21694 *	US-PATENT-CLASS-60-267	c 33	N72-25911 *	US-PATENT-CLASS-60-39.48	c 27	N71-16392 *
US-PATENT-CLASS-60-202	c 28	N71-21822 *	US-PATENT-CLASS-60-267	c 28	N73-25952 *	US-PATENT-CLASS-60-39.48	c 28	N70-38199 *
US-PATENT-CLASS-60-202	c 28	N71-23081 *	US-PATENT-CLASS-60-267	c 20	N76-14191 *	US-PATENT-CLASS-60-39.48	c 28	N70-39931 *
US-PATENT-CLASS-60-202	c 28	N71-23293 *	US-PATENT-CLASS-60-267	c 34	N79-13288 *	US-PATENT-CLASS-60-39.48	c 27	N71-28929 *
US-PATENT-CLASS-60-202	c 28	N71-25213 *	US-PATENT-CLASS-60-267	c 34	N79-13289 *	US-PATENT-CLASS-60-39.51R	c 25	N78-10224 *
US-PATENT-CLASS-60-202	c 28	N71-26173 *	US-PATENT-CLASS-60-267	c 34	N80-24573 *	US-PATENT-CLASS-60-39.52	c 07	N78-25089 *
US-PATENT-CLASS-60-202	c 28	N71-26642 *	US-PATENT-CLASS-60-267	c 44	N81-24519 *	US-PATENT-CLASS-60-39.55	c 28	N71-28915 *
US-PATENT-CLASS-60-202	c 28	N71-26781 *	US-PATENT-CLASS-60-267	c 05	N81-26114 *	US-PATENT-CLASS-60-39.55	c 23	N73-30665 *
US-PATENT-CLASS-60-202	c 28	N72-11709 *	US-PATENT-CLASS-60-269	c 07	N83-33884 *	US-PATENT-CLASS-60-39.55	c 34	N78-27357 *
US-PATENT-CLASS-60-202	c 28	N72-22770 *	US-PATENT-CLASS-60-26	c 21	N72-31637 *	US-PATENT-CLASS-60-39.66	c 15	N70-36411 *
US-PATENT-CLASS-60-202	c 28	N72-22771 *	US-PATENT-CLASS-60-26	c 03	N73-20040 *	US-PATENT-CLASS-60-39.66	c 23	N73-30665 *
US-PATENT-CLASS-60-202	c 28	N73-24783 *	US-PATENT-CLASS-60-271	c 28	N72-11708 *	US-PATENT-CLASS-60-39.66	c 07	N77-23106 *
US-PATENT-CLASS-60-202	c 25	N73-25760 *	US-PATENT-CLASS-60-271	c 28	N72-23810 *	US-PATENT-CLASS-60-39.66	c 37	N78-10467 *
US-PATENT-CLASS-60-202	c 28	N73-27699 *	US-PATENT-CLASS-60-271	c 07	N78-17055 *	US-PATENT-CLASS-60-39.66	c 37	N79-11403 *
US-PATENT-CLASS-60-202	c 20	N77-10148 *	US-PATENT-CLASS-60-271	c 37	N78-17384 *	US-PATENT-CLASS-60-39.69R	c 34	N78-27357 *
US-PATENT-CLASS-60-202	c 20	N77-20162 *	US-PATENT-CLASS-60-271	c 07	N83-33884 *	US-PATENT-CLASS-60-39.72	c 23	N73-30665 *
US-PATENT-CLASS-60-202	c 20	N85-21256 *	US-PATENT-CLASS-60-275	c 35	N84-17555 *	US-PATENT-CLASS-60-39.74A	c 15	N72-25455 *
US-PATENT-CLASS-60-203.1	c 20	N86-26368 *	US-PATENT-CLASS-60-291	c 31	N73-38998 *	US-PATENT-CLASS-60-39.74R	c 23	N73-30665 *
US-PATENT-CLASS-60-203.1	c 20	N87-16875 *	US-PATENT-CLASS-60-300	c 35	N80-10374 *	US-PATENT-CLASS-60-39.74R	c 20	N76-14190 *
US-PATENT-CLASS-60-203.1	c 09	N88-28939 *	US-PATENT-CLASS-60-303	c 37	N84-33808 *	US-PATENT-CLASS-60-39.74	c 28	N70-33241 *
US-PATENT-CLASS-60-203	c 20	N80-14188 *	US-PATENT-CLASS-60-311	c 35	N84-17555 *	US-PATENT-CLASS-60-39.74	c 28	N72-17843 *
US-PATENT-CLASS-60-204	c 07	N78-17055 *	US-PATENT-CLASS-60-316	c 34	N76-18364 *	US-PATENT-CLASS-60-39.74	c 20	N79-21125 *
US-PATENT-CLASS-60-204	c 07	N78-18067 *	US-PATENT-CLASS-60-35.3	c 28	N70-33265 *	US-PATENT-CLASS-60-39.82E	c 20	N78-24275 *
US-PATENT-CLASS-60-211	c 44	N81-24519 *	US-PATENT-CLASS-60-35.3	c 28	N70-40367 *	US-PATENT-CLASS-60-39.83	c 07	N84-33410 *
US-PATENT-CLASS-60-214	c 28	N73-13773 *	US-PATENT-CLASS-60-35.4	c 28	N70-34294 *	US-PATENT-CLASS-60-39.82E	c 28	N72-11709 *
US-PATENT-CLASS-60-214	c 15	N74-27360 *	US-PATENT-CLASS-60-35.4	c 28	N70-38645 *	US-PATENT-CLASS-60-415	c 85	N87-21755 *
US-PATENT-CLASS-60-215	c 06	N73-30097 *	US-PATENT-CLASS-60-35.5	c 28	N71-29153 *	US-PATENT-CLASS-60-508	c 44	N79-18443 *
US-PATENT-CLASS-60-215	c 15	N74-27360 *	US-PATENT-CLASS-60-35.5	c 28	N70-34162 *	US-PATENT-CLASS-60-516	c 20	N75-24837 *
US-PATENT-CLASS-60-217	c 12	N71-17631 *	US-PATENT-CLASS-60-35.5	c 28	N70-38711 *	US-PATENT-CLASS-60-516	c 44	N82-24640 *
US-PATENT-CLASS-60-225	c 28	N71-10780 *	US-PATENT-CLASS-60-35.5	c 21	N71-15582 *	US-PATENT-CLASS-60-517	c 44	N76-29701 *
US-PATENT-CLASS-60-226A	c 07	N77-17059 *	US-PATENT-CLASS-60-35.5	c 15	N71-28951 *	US-PATENT-CLASS-60-517	c 37	N81-25370 *
US-PATENT-CLASS-60-226A	c 07	N79-14096 *	US-PATENT-CLASS-60-35.5	c 28	N70-33356 *	US-PATENT-CLASS-60-518	c 37	N81-14318 *
US-PATENT-CLASS-60-226A	c 07	N79-14097 *	US-PATENT-CLASS-60-35.5	c 28	N70-34175 *	US-PATENT-CLASS-60-518	c 37	N81-17432 *
US-PATENT-CLASS-60-226A	c 07	N82-26293 *	US-PATENT-CLASS-60-35.5	c 28	N70-36802 *	US-PATENT-CLASS-60-51	c 15	N71-27754 *
US-PATENT-CLASS-60-226R	c 07	N78-18066 *	US-PATENT-CLASS-60-35.5	c 21	N70-36938 *	US-PATENT-CLASS-60-520	c 37	N80-31790 *
US-PATENT-CLASS-60-226R	c 07	N77-14025 *	US-PATENT-CLASS-60-35.5	c 25	N70-36946 *	US-PATENT-CLASS-60-524	c 44	N81-17518 *
US-PATENT-CLASS-60-226R	c 07	N77-28118 *	US-PATENT-CLASS-60-35.5	c 28	N70-37245 *	US-PATENT-CLASS-60-525	c 37	N81-25370 *
US-PATENT-CLASS-60-226R	c 07	N78-17055 *	US-PATENT-CLASS-60-35.5	c 28	N70-37980 *	US-PATENT-CLASS-60-527	c 37	N77-12402 *
US-PATENT-CLASS-60-226R	c 07	N78-17056 *	US-PATENT-CLASS-60-35.5	c 28	N71-14043 *	US-PATENT-CLASS-60-527	c 37	N77-19458 *
US-PATENT-CLASS-60-226R	c 07	N78-25089 *	US-PATENT-CLASS-60-35.5	c 28	N71-15659 *	US-PATENT-CLASS-60-527	c 37	N78-31426 *
US-PATENT-CLASS-60-226R	c 07	N79-14096 *	US-PATENT-CLASS-60-35.60	c 28	N70-33284 *	US-PATENT-CLASS-60-527	c 37	N86-19604 *
US-PATENT-CLASS-60-226R	c 07	N81-19116 *	US-PATENT-CLASS-60-35.6	c 28	N70-33331 *	US-PATENT-CLASS-60-528	c 35	N88-29151 *
US-PATENT-CLASS-60-228	c 07	N77-17059 *	US-PATENT-CLASS-60-35.6	c 28	N70-33374 *	US-PATENT-CLASS-60-528	c 37	N86-19604 *
US-PATENT-CLASS-60-230	c 07	N78-27121 *	US-PATENT-CLASS-60-35.6	c 28	N70-33375 *	US-PATENT-CLASS-60-530	c 20	N75-24837 *
US-PATENT-CLASS-60-236	c 07	N81-19116 *	US-PATENT-CLASS-60-35.6	c 28	N70-34860 *	US-PATENT-CLASS-60-53	c 37	N77-22479 *
US-PATENT-CLASS-60-238	c 07	N81-19116 *	US-PATENT-CLASS-60-35.6	c 28	N70-35381 *	US-PATENT-CLASS-60-54.5	c 15	N71-10658 *
US-PATENT-CLASS-60-239	c 07	N81-19116 *	US-PATENT-CLASS-60-35.6	c 27	N70-35534 *	US-PATENT-CLASS-60-560	c 35	N78-10428 *
US-PATENT-CLASS-60-23	c 09	N71-26182 *	US-PATENT-CLASS-60-35.6	c 15	N70-36535 *	US-PATENT-CLASS-60-572	c 44	N79-18443 *
US-PATENT-CLASS-60-23	c 15	N72-12409 *	US-PATENT-CLASS-60-35.6	c 28	N70-36806 *	US-PATENT-CLASS-60-574	c 35	N78-10428 *
US-PATENT-CLASS-60-23	c 21	N72-31637 *	US-PATENT-CLASS-60-35.6	c 28	N70-36910 *	US-PATENT-CLASS-60-606	c 28	N80-10374 *
US-PATENT-CLASS-60-240	c 15	N73-13467 *	US-PATENT-CLASS-60-35.6	c 28	N70-38249 *	US-PATENT-CLASS-60-606	c 37	N84-33808 *
US-PATENT-CLASS-60-240	c 28	N71-24736 *	US-PATENT-CLASS-60-35.6	c 28	N70-38504 *	US-PATENT-CLASS-60-632	c 20	N80-18097 *
US-PATENT-CLASS-60-240	c 07	N80-18039 *	US-PATENT-CLASS-60-35.6	c 28	N70-38505 *	US-PATENT-CLASS-60-634	c 37	N87-23983 *
US-PATENT-CLASS-60-243	c 33	N71-21507 *	US-PATENT-CLASS-60-35.6	c 28	N70-38710 *	US-PATENT-CLASS-60-638	c 37	N87-23983 *
US-PATENT-CLASS-60-243	c 15	N71-27432 *	US-PATENT-CLASS-60-35.6	c 28	N70-38999 *	US-PATENT-CLASS-60-641.12	c 44	N84-23018 *
US-PATENT-CLASS-60-243	c 28	N73-13773 *	US-PATENT-CLASS-60-35.6	c 33	N71-15623 *	US-PATENT-CLASS-60-641.14	c 44	N82-24640 *
US-PATENT-CLASS-60-251	c 20	N79-21124 *	US-PATENT-CLASS-60-35.6	c 27	N71-15634 *	US-PATENT-CLASS-60-641	c 44	N75-32581 *
US-PATENT-CLASS-60-251	c 28	N70-41311 *	US-PATENT-CLASS-60-35.6	c 31	N71-15637 *	US-PATENT-CLASS-60-641	c 44	N77-32582 *
US-PATENT-CLASS-60-254	c 28	N72-20758 *	US-PATENT-CLASS-60-35.6	c 31	N71-15647 *	US-PATENT-CLASS-60-641	c 44	N78-17460 *
US-PATENT-CLASS-60-254	c 28	N73-24784 *	US-PATENT-CLASS-60-35.6	c 14	N71-27186 *	US-PATENT-CLASS-60-641	c 44	N78-32542 *
US-PATENT-CLASS-60-256	c 28	N73-24784 *	US-PATENT-CLASS-60-36	c 15	N72-33477 *	US-PATENT-CLASS-60-641	c 44	N79-18443 *

US-PATENT-CLASS-60-641	c 44	N81-17518 *	US-PATENT-CLASS-62-476	c 44	N82-26776 *	US-PATENT-CLASS-65-60D	c 27	N78-32260 *
US-PATENT-CLASS-60-645	c 34	N79-20335 *	US-PATENT-CLASS-62-47	c 28	N81-14103 *	US-PATENT-CLASS-65-61	c 74	N80-24149 *
US-PATENT-CLASS-60-649	c 34	N79-20335 *	US-PATENT-CLASS-62-48	c 28	N78-24365 *	US-PATENT-CLASS-65-7	c 18	N71-23088 *
US-PATENT-CLASS-60-659	c 44	N75-32581 *	US-PATENT-CLASS-62-48	c 31	N83-31897 *	US-PATENT-CLASS-65-87	c 71	N78-10837 *
US-PATENT-CLASS-60-659	c 44	N76-31667 *	US-PATENT-CLASS-62-48	c 31	N87-21159 *	US-PATENT-CLASS-6554	c 35	N77-24455 *
US-PATENT-CLASS-60-671	c 44	N78-32542 *	US-PATENT-CLASS-62-48	c 31	N88-14223 *	US-PATENT-CLASS-6564	c 35	N77-24455 *
US-PATENT-CLASS-60-698	c 44	N84-23018 *	US-PATENT-CLASS-62-49	c 31	N76-14284 *	US-PATENT-CLASS-70-58	c 33	N81-25299 *
US-PATENT-CLASS-60-716	c 44	N84-23018 *	US-PATENT-CLASS-62-4	c 44	N77-32581 *	US-PATENT-CLASS-71-98	c 51	N83-17045 *
US-PATENT-CLASS-60-721	c 71	N79-20827 *	US-PATENT-CLASS-62-4	c 44	N78-17460 *	US-PATENT-CLASS-72-253	c 15	N71-22797 *
US-PATENT-CLASS-60-721	c 71	N83-32515 *	US-PATENT-CLASS-62-50	c 15	N70-34247 *	US-PATENT-CLASS-72-258	c 15	N73-13464 *
US-PATENT-CLASS-60-721	c 71	N83-32516 *	US-PATENT-CLASS-62-50	c 35	N78-12390 *	US-PATENT-CLASS-72-307	c 15	N72-12408 *
US-PATENT-CLASS-60-721	c 71	N84-23233 *	US-PATENT-CLASS-62-514 R	c 35	N83-32026 *	US-PATENT-CLASS-72-324	c 71	N86-21276 *
US-PATENT-CLASS-60-726	c 07	N81-29129 *	US-PATENT-CLASS-62-514-JT	c 31	N89-14351 *	US-PATENT-CLASS-72-341	c 71	N86-21276 *
US-PATENT-CLASS-60-726	c 07	N82-32366 *	US-PATENT-CLASS-62-514-R	c 31	N87-21159 *	US-PATENT-CLASS-72-34	c 15	N71-21536 *
US-PATENT-CLASS-60-730	c 05	N81-26114 *	US-PATENT-CLASS-62-514-R	c 37	N87-23982 *	US-PATENT-CLASS-72-354	c 15	N71-23811 *
US-PATENT-CLASS-60-730	c 37	N84-22958 *	US-PATENT-CLASS-62-514-R	c 31	N89-12785 *	US-PATENT-CLASS-72-363	c 37	N76-14461 *
US-PATENT-CLASS-60-733	c 07	N80-26298 *	US-PATENT-CLASS-62-514JT	c 31	N77-10229 *	US-PATENT-CLASS-72-364	c 15	N71-18579 *
US-PATENT-CLASS-60-736	c 37	N84-22958 *	US-PATENT-CLASS-62-514R	c 35	N78-12390 *	US-PATENT-CLASS-72-369	c 15	N71-24679 *
US-PATENT-CLASS-60-736	c 07	N86-20389 *	US-PATENT-CLASS-62-514R	c 31	N78-17237 *	US-PATENT-CLASS-72-436	c 37	N79-28550 *
US-PATENT-CLASS-60-737	c 07	N81-29129 *	US-PATENT-CLASS-62-514R	c 31	N78-25256 *	US-PATENT-CLASS-72-447	c 15	N73-13463 *
US-PATENT-CLASS-60-746	c 07	N80-26298 *	US-PATENT-CLASS-62-514R	c 51	N79-10694 *	US-PATENT-CLASS-72-451	c 37	N79-28550 *
US-PATENT-CLASS-60-746	c 20	N87-14420 *	US-PATENT-CLASS-62-514R	c 31	N79-17029 *	US-PATENT-CLASS-72-453	c 37	N76-18454 *
US-PATENT-CLASS-60-748	c 07	N85-35195 *	US-PATENT-CLASS-62-514R	c 34	N79-20336 *	US-PATENT-CLASS-72-467	c 15	N71-23817 *
US-PATENT-CLASS-60-757	c 07	N84-24577 *	US-PATENT-CLASS-62-514R	c 35	N81-14287 *	US-PATENT-CLASS-72-46	c 24	N75-33181 *
US-PATENT-CLASS-60-836	c 24	N78-14096 *	US-PATENT-CLASS-62-514R	c 31	N83-31897 *	US-PATENT-CLASS-72-470	c 37	N79-28550 *
US-PATENT-CLASS-60-97	c 03	N71-12260 *	US-PATENT-CLASS-62-514R	c 34	N83-34221 *	US-PATENT-CLASS-72-476	c 15	N73-13463 *
US-PATENT-CLASS-604-114	c 52	N83-27577 *	US-PATENT-CLASS-62-514R	c 31	N88-14223 *	US-PATENT-CLASS-72-53	c 15	N71-18616 *
US-PATENT-CLASS-604-151	c 52	N83-27577 *	US-PATENT-CLASS-62-514	c 23	N71-26654 *	US-PATENT-CLASS-72-53	c 15	N73-32360 *
US-PATENT-CLASS-604-280	c 52	N83-21785 *	US-PATENT-CLASS-62-51	c 15	N72-17453 *	US-PATENT-CLASS-72-54	c 37	N76-14461 *
US-PATENT-CLASS-604-368	c 54	N84-11758 *	US-PATENT-CLASS-62-55.5	c 11	N71-24964 *	US-PATENT-CLASS-72-56	c 15	N70-34249 *
US-PATENT-CLASS-604-378	c 54	N84-11758 *	US-PATENT-CLASS-62-55.5	c 15	N72-22484 *	US-PATENT-CLASS-72-56	c 15	N71-24833 *
US-PATENT-CLASS-604-396	c 54	N84-11758 *	US-PATENT-CLASS-62-55	c 15	N70-38020 *	US-PATENT-CLASS-72-56	c 15	N71-24865 *
US-PATENT-CLASS-604-8	c 52	N83-21785 *	US-PATENT-CLASS-62-55	c 34	N77-30399 *	US-PATENT-CLASS-72-56	c 15	N71-26148 *
US-PATENT-CLASS-61-83	c 18	N74-22136 *	US-PATENT-CLASS-62-56	c 05	N72-11084 *	US-PATENT-CLASS-72-60	c 15	N71-24836 *
US-PATENT-CLASS-62-DIG.1	c 34	N84-22903 *	US-PATENT-CLASS-62-62	c 34	N83-34221 *	US-PATENT-CLASS-72-61	c 15	N71-26346 *
US-PATENT-CLASS-62-DIG.5	c 05	N81-26114 *	US-PATENT-CLASS-62-6	c 15	N69-23190 *	US-PATENT-CLASS-72-63	c 20	N75-18310 *
US-PATENT-CLASS-62-100	c 34	N77-19353 *	US-PATENT-CLASS-62-6	c 23	N71-15467 *	US-PATENT-CLASS-72-63	c 37	N76-14461 *
US-PATENT-CLASS-62-100	c 28	N78-24365 *	US-PATENT-CLASS-62-6	c 15	N71-23025 *	US-PATENT-CLASS-72-750	c 35	N88-24927 *
US-PATENT-CLASS-62-121	c 34	N77-19353 *	US-PATENT-CLASS-62-6	c 23	N72-25619 *	US-PATENT-CLASS-72-83	c 15	N71-22723 *
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US-PATENT-CLASS-73-149	c 52	N74-10975 *	US-PATENT-CLASS-73-194	c 14	N70-41994 *	US-PATENT-CLASS-73-40.5A	c 35	N85-21597 *
US-PATENT-CLASS-73-15.4	c 14	N71-17659 *	US-PATENT-CLASS-73-194	c 14	N71-23226 *	US-PATENT-CLASS-73-40.5	c 14	N71-10779 *
US-PATENT-CLASS-73-15.4	c 35	N74-32879 *	US-PATENT-CLASS-73-194	c 12	N71-26546 *	US-PATENT-CLASS-73-40.7	c 15	N71-24910 *
US-PATENT-CLASS-73-15.6	c 14	N70-35368 *	US-PATENT-CLASS-73-195	c 35	N75-30503 *	US-PATENT-CLASS-73-40.7	c 14	N71-28992 *
US-PATENT-CLASS-73-15.6	c 14	N71-24234 *	US-PATENT-CLASS-73-198	c 14	N69-24257 *	US-PATENT-CLASS-73-40.7	c 35	N74-32879 *
US-PATENT-CLASS-73-15.6	c 14	N71-26136 *	US-PATENT-CLASS-73-198	c 14	N72-17327 *	US-PATENT-CLASS-73-40.7	c 35	N85-29213 *
US-PATENT-CLASS-73-15.6	c 32	N72-25877 *	US-PATENT-CLASS-73-1	c 10	N71-13545 *	US-PATENT-CLASS-73-400	c 14	N71-23093 *
US-PATENT-CLASS-73-15.6	c 09	N74-19528 *	US-PATENT-CLASS-73-1	c 09	N72-19988 *	US-PATENT-CLASS-73-400	c 14	N71-24292 *
US-PATENT-CLASS-73-15.6	c 35	N76-24523 *	US-PATENT-CLASS-73-204	c 12	N71-17569 *	US-PATENT-CLASS-73-400	c 35	N79-33450 *
US-PATENT-CLASS-73-15.6	c 35	N77-22450 *	US-PATENT-CLASS-73-204	c 35	N76-24524 *	US-PATENT-CLASS-73-401	c 14	N70-34820 *
US-PATENT-CLASS-73-15.6	c 39	N78-10493 *	US-PATENT-CLASS-73-204	c 35	N77-20400 *	US-PATENT-CLASS-73-40	c 35	N75-15931 *
US-PATENT-CLASS-73-15R	c 33	N72-25913 *	US-PATENT-CLASS-73-204	c 52	N83-27577 *	US-PATENT-CLASS-73-40	c 35	N80-18358 *
US-PATENT-CLASS-73-15R	c 14	N73-28486 *	US-PATENT-CLASS-73-205L	c 02	N80-20224 *	US-PATENT-CLASS-73-419	c 14	N71-22752 *
US-PATENT-CLASS-73-15R	c 25	N74-18551 *	US-PATENT-CLASS-73-212	c 14	N70-36824 *	US-PATENT-CLASS-73-420	c 35	N74-13132 *
US-PATENT-CLASS-73-15R	c 31	N74-27900 *	US-PATENT-CLASS-73-212	c 14	N73-13415 *	US-PATENT-CLASS-73-421.5R	c 13	N72-25323 *
US-PATENT-CLASS-73-15R	c 09	N77-27131 *	US-PATENT-CLASS-73-212	c 35	N76-14429 *	US-PATENT-CLASS-73-421.5R	c 14	N73-30395 *
US-PATENT-CLASS-73-15R	c 74	N81-17887 *	US-PATENT-CLASS-73-212	c 06	N80-18036 *	US-PATENT-CLASS-73-421.5R	c 52	N74-20728 *
US-PATENT-CLASS-73-150-A	c 39	N86-20841 *	US-PATENT-CLASS-73-221	c 35	N75-19611 *	US-PATENT-CLASS-73-421.5R	c 35	N76-18401 *
US-PATENT-CLASS-73-150R	c 35	N84-28018 *	US-PATENT-CLASS-73-228	c 34	N77-27345 *	US-PATENT-CLASS-73-421.5R	c 35	N77-32456 *
US-PATENT-CLASS-73-155	c 46	N80-10709 *	US-PATENT-CLASS-73-23.1	c 06	N69-39936 *	US-PATENT-CLASS-73-421.5	c 14	N73-12444 *
US-PATENT-CLASS-73-155	c 46	N80-24906 *	US-PATENT-CLASS-73-23.1	c 06	N72-17094 *	US-PATENT-CLASS-73-421R	c 54	N76-14804 *
US-PATENT-CLASS-73-159	c 31	N79-11246 *	US-PATENT-CLASS-73-23.1	c 06	N72-25146 *	US-PATENT-CLASS-73-422GC	c 13	N72-25323 *
US-PATENT-CLASS-73-15	c 14	N70-34156 *	US-PATENT-CLASS-73-23.1	c 25	N76-18245 *	US-PATENT-CLASS-73-422TC	c 13	N72-25323 *
US-PATENT-CLASS-73-15	c 14	N71-15922 *	US-PATENT-CLASS-73-23.1	c 23	N77-17161 *	US-PATENT-CLASS-73-422	c 14	N71-20435 *
US-PATENT-CLASS-73-15	c 14	N71-22964 *	US-PATENT-CLASS-73-23	c 14	N71-10774 *	US-PATENT-CLASS-73-425.2	c 91	N76-30131 *
US-PATENT-CLASS-73-15	c 11	N71-24985 *	US-PATENT-CLASS-73-23	c 05	N71-11202 *	US-PATENT-CLASS-73-425.4R	c 35	N78-27384 *
US-PATENT-CLASS-73-15	c 11	N71-28629 *	US-PATENT-CLASS-73-23	c 52	N74-20728 *	US-PATENT-CLASS-73-425.6	c 15	N72-21465 *
US-PATENT-CLASS-73-161	c 11	N72-25288 *	US-PATENT-CLASS-73-23	c 35	N75-29380 *	US-PATENT-CLASS-73-432PS	c 76	N75-12810 *
US-PATENT-CLASS-73-167	c 15	N84-16231 *	US-PATENT-CLASS-73-23	c 25	N78-15210 *	US-PATENT-CLASS-73-432PS	c 35	N75-33367 *
US-PATENT-CLASS-73-170A	c 35	N78-27384 *	US-PATENT-CLASS-73-23	c 35	N78-19465 *	US-PATENT-CLASS-73-432PS	c 35	N78-18390 *
US-PATENT-CLASS-73-170A	c 48	N80-18667 *	US-PATENT-CLASS-73-24	c 06	N69-39733 *	US-PATENT-CLASS-73-432R	c 33	N73-27796 *
US-PATENT-CLASS-73-170R	c 07	N73-20175 *	US-PATENT-CLASS-73-28	c 14	N73-27376 *	US-PATENT-CLASS-73-432R	c 14	N73-28487 *
US-PATENT-CLASS-73-170R	c 14	N73-28487 *	US-PATENT-CLASS-73-28	c 14	N73-30395 *	US-PATENT-CLASS-73-432R	c 91	N76-30131 *



US-PATENT-CLASS-73-432R	c 35	N77-19385 *	US-PATENT-CLASS-73-620	c 35	N84-22928 *	US-PATENT-CLASS-73-861.65	c 02	N80-28300 *
US-PATENT-CLASS-73-432R	c 35	N78-18390 *	US-PATENT-CLASS-73-626	c 52	N79-26771 *	US-PATENT-CLASS-73-861.65	c 35	N89-14423 *
US-PATENT-CLASS-73-432R	c 11	N84-16231 *	US-PATENT-CLASS-73-629	c 33	N83-16626 *	US-PATENT-CLASS-73-861.66	c 02	N80-28300 *
US-PATENT-CLASS-73-432SD	c 15	N72-27262 *	US-PATENT-CLASS-73-630	c 39	N78-15512 *	US-PATENT-CLASS-73-861.71	c 07	N84-28292 *
US-PATENT-CLASS-73-432SD	c 11	N73-20267 *	US-PATENT-CLASS-73-632	c 38	N79-14398 *	US-PATENT-CLASS-73-861	c 34	N81-26402 *
US-PATENT-CLASS-73-432SD	c 35	N77-18417 *	US-PATENT-CLASS-73-633	c 52	N79-14751 *	US-PATENT-CLASS-73-862.01	c 35	N86-19581 *
US-PATENT-CLASS-73-432T	c 74	N84-11921 *	US-PATENT-CLASS-73-633	c 35	N84-22928 *	US-PATENT-CLASS-73-862.04	c 35	N86-32696 *
US-PATENT-CLASS-73-432	c 11	N70-34786 *	US-PATENT-CLASS-73-644	c 34	N83-31993 *	US-PATENT-CLASS-73-862.08	c 54	N82-26987 *
US-PATENT-CLASS-73-432	c 11	N70-38675 *	US-PATENT-CLASS-73-641	c 38	N79-14398 *	US-PATENT-CLASS-73-862.54	c 37	N83-26482 *
US-PATENT-CLASS-73-432	c 05	N70-42000 *	US-PATENT-CLASS-73-644	c 38	N79-14398 *	US-PATENT-CLASS-73-862.54	c 35	N85-20294 *
US-PATENT-CLASS-73-432	c 31	N71-16221 *	US-PATENT-CLASS-73-644	c 52	N79-14751 *	US-PATENT-CLASS-73-862.54	c 35	N86-19581 *
US-PATENT-CLASS-73-432	c 27	N71-16223 *	US-PATENT-CLASS-73-646	c 71	N78-14867 *	US-PATENT-CLASS-73-862.61	c 35	N86-32696 *
US-PATENT-CLASS-73-432	c 30	N71-17788 *	US-PATENT-CLASS-73-646	c 35	N84-12445 *	US-PATENT-CLASS-73-862.65	c 35	N84-28015 *
US-PATENT-CLASS-73-432	c 14	N71-23227 *	US-PATENT-CLASS-73-647	c 32	N79-24203 *	US-PATENT-CLASS-73-863.11	c 35	N83-29650 *
US-PATENT-CLASS-73-432	c 10	N71-26339 *	US-PATENT-CLASS-73-655	c 35	N80-14371 *	US-PATENT-CLASS-73-863.11	c 37	N85-29286 *
US-PATENT-CLASS-73-432	c 11	N71-28629 *	US-PATENT-CLASS-73-657	c 35	N85-30282 *	US-PATENT-CLASS-73-863.21	c 35	N86-26595 *
US-PATENT-CLASS-73-432	c 14	N71-30026 *	US-PATENT-CLASS-73-658	c 35	N84-12445 *	US-PATENT-CLASS-73-863.31	c 45	N83-25217 *
US-PATENT-CLASS-73-432	c 35	N74-21062 *	US-PATENT-CLASS-73-65	c 14	N71-22992 *	US-PATENT-CLASS-73-863.31	c 35	N86-26595 *
US-PATENT-CLASS-73-45.5	c 12	N71-17573 *	US-PATENT-CLASS-73-661	c 35	N80-14371 *	US-PATENT-CLASS-73-863.72	c 35	N86-26595 *
US-PATENT-CLASS-73-456	c 35	N78-24515 *	US-PATENT-CLASS-73-67.1	c 35	N75-12271 *	US-PATENT-CLASS-73-863.83	c 45	N83-25217 *
US-PATENT-CLASS-73-462	c 35	N87-14670 *	US-PATENT-CLASS-73-67.2	c 11	N69-21540 *	US-PATENT-CLASS-73-863.86	c 35	N85-29213 *
US-PATENT-CLASS-73-468	c 37	N84-28082 *	US-PATENT-CLASS-73-67.2	c 15	N71-18132 *	US-PATENT-CLASS-73-864.34	c 35	N86-26595 *
US-PATENT-CLASS-73-46	c 35	N75-19612 *	US-PATENT-CLASS-73-67.2	c 14	N72-22440 *	US-PATENT-CLASS-73-864.41	c 35	N84-28018 *
US-PATENT-CLASS-73-473	c 35	N87-14670 *	US-PATENT-CLASS-73-67.2	c 35	N78-17358 *	US-PATENT-CLASS-73-864.52	c 35	N85-29213 *
US-PATENT-CLASS-73-477	c 35	N87-14670 *	US-PATENT-CLASS-73-67.2	c 32	N73-26910 *	US-PATENT-CLASS-73-864.63	c 45	N83-25217 *
US-PATENT-CLASS-73-49.2	c 02	N71-24235 *	US-PATENT-CLASS-73-67.5H	c 38	N74-15395 *	US-PATENT-CLASS-73-864.81	c 37	N85-29286 *
US-PATENT-CLASS-73-49.2	c 35	N75-15931 *	US-PATENT-CLASS-73-67.7	c 39	N77-28511 *	US-PATENT-CLASS-73-86	c 14	N69-39975 *
US-PATENT-CLASS-73-49.2	c 35	N75-19612 *	US-PATENT-CLASS-73-67.8S	c 35	N74-10415 *	US-PATENT-CLASS-73-86	c 33	N71-21586 *
US-PATENT-CLASS-73-49.3	c 14	N71-26672 *	US-PATENT-CLASS-73-67.8S	c 38	N74-15130 *	US-PATENT-CLASS-73-86	c 33	N73-27796 *
US-PATENT-CLASS-73-49.8	c 14	N69-27503 *	US-PATENT-CLASS-73-67.9	c 52	N74-20726 *	US-PATENT-CLASS-73-86	c 34	N74-15652 *
US-PATENT-CLASS-73-49.8	c 15	N71-29132 *	US-PATENT-CLASS-73-683.31	c 35	N81-29407 *	US-PATENT-CLASS-73-88.5R	c 15	N72-17452 *
US-PATENT-CLASS-73-490	c 04	N81-21047 *	US-PATENT-CLASS-73-684.52	c 35	N81-29407 *	US-PATENT-CLASS-73-88.5R	c 32	N73-26910 *
US-PATENT-CLASS-73-492	c 14	N72-25411 *	US-PATENT-CLASS-73-69	c 71	N74-31148 *	US-PATENT-CLASS-73-88.5R	c 52	N74-27864 *
US-PATENT-CLASS-73-493	c 17	N76-29347 *	US-PATENT-CLASS-73-70.2	c 14	N71-10616 *	US-PATENT-CLASS-73-88.5R	c 35	N76-14430 *
US-PATENT-CLASS-73-497	c 14	N71-30265 *	US-PATENT-CLASS-73-705	c 36	N85-21639 *	US-PATENT-CLASS-73-88.5SD	c 33	N76-19338 *
US-PATENT-CLASS-73-497	c 35	N74-15094 *	US-PATENT-CLASS-73-708	c 34	N85-21568 *	US-PATENT-CLASS-73-88.5	c 14	N70-34705 *
US-PATENT-CLASS-73-4	c 14	N71-18481 *	US-PATENT-CLASS-73-71.2	c 14	N70-34794 *	US-PATENT-CLASS-73-88.5	c 14	N70-34799 *
US-PATENT-CLASS-73-4	c 14	N71-23036 *	US-PATENT-CLASS-73-71.3	c 35	N74-15146 *	US-PATENT-CLASS-73-88.5	c 14	N71-17656 *
US-PATENT-CLASS-73-4	c 14	N71-23755 *	US-PATENT-CLASS-73-71.4	c 32	N71-16428 *	US-PATENT-CLASS-73-88.5	c 14	N71-21091 *
US-PATENT-CLASS-73-4	c 14	N73-30390 *	US-PATENT-CLASS-73-71.4	c 32	N71-26681 *	US-PATENT-CLASS-73-88.5	c 14	N71-23087 *
US-PATENT-CLASS-73-502	c 35	N86-32695 *	US-PATENT-CLASS-73-71.5R	c 71	N74-31148 *	US-PATENT-CLASS-73-88.5	c 14	N71-24233 *
US-PATENT-CLASS-73-504	c 04	N81-21047 *	US-PATENT-CLASS-73-71.5U	c 38	N74-15395 *	US-PATENT-CLASS-73-88.5	c 09	N72-22200 *
US-PATENT-CLASS-73-505	c 23	N71-16098 *	US-PATENT-CLASS-73-71.6	c 14	N71-27185 *	US-PATENT-CLASS-73-88.5	c 33	N75-31329 *
US-PATENT-CLASS-73-505	c 12	N75-24774 *	US-PATENT-CLASS-73-71.6	c 14	N72-27412 *	US-PATENT-CLASS-73-88.5	c 38	N76-28563 *
US-PATENT-CLASS-73-505	c 71	N78-10837 *	US-PATENT-CLASS-73-71.6	c 14	N73-13416 *	US-PATENT-CLASS-73-88A	c 32	N73-20740 *
US-PATENT-CLASS-73-505	c 71	N79-20827 *	US-PATENT-CLASS-73-71.6	c 14	N73-19421 *	US-PATENT-CLASS-73-88F	c 39	N78-15512 *
US-PATENT-CLASS-73-505	c 71	N81-15767 *	US-PATENT-CLASS-73-71.6	c 35	N77-18417 *	US-PATENT-CLASS-73-88R	c 35	N74-13129 *
US-PATENT-CLASS-73-505	c 71	N83-32515 *	US-PATENT-CLASS-73-714	c 35	N79-14347 *	US-PATENT-CLASS-73-88R	c 35	N77-22449 *
US-PATENT-CLASS-73-505	c 71	N83-32516 *	US-PATENT-CLASS-73-714	c 34	N79-24285 *	US-PATENT-CLASS-73-88R	c 39	N77-28511 *
US-PATENT-CLASS-73-505	c 71	N83-36846 *	US-PATENT-CLASS-73-714	c 35	N84-14491 *	US-PATENT-CLASS-73-88	c 32	N71-17645 *
US-PATENT-CLASS-73-505	c 71	N84-23233 *	US-PATENT-CLASS-73-721	c 35	N79-14347 *	US-PATENT-CLASS-73-90	c 32	N70-42003 *
US-PATENT-CLASS-73-505	c 71	N85-22105 *	US-PATENT-CLASS-73-721	c 35	N84-22934 *	US-PATENT-CLASS-73-90	c 32	N71-25360 *
US-PATENT-CLASS-73-505	c 71	N85-29693 *	US-PATENT-CLASS-73-724	c 32	N79-24203 *	US-PATENT-CLASS-73-90	c 14	N73-20476 *
US-PATENT-CLASS-73-505	c 35	N86-20752 *	US-PATENT-CLASS-73-724	c 52	N80-18691 *	US-PATENT-CLASS-73-91	c 14	N73-20476 *
US-PATENT-CLASS-73-505	c 26	N86-32551 *	US-PATENT-CLASS-73-724	c 33	N82-26572 *	US-PATENT-CLASS-73-91	c 32	N73-26910 *
US-PATENT-CLASS-73-505	c 71	N88-24241 *	US-PATENT-CLASS-73-753	c 35	N85-21597 *	US-PATENT-CLASS-73-91	c 09	N74-19528 *
US-PATENT-CLASS-73-505	c 71	N89-13236 *	US-PATENT-CLASS-73-756	c 35	N78-24515 *	US-PATENT-CLASS-73-91	c 39	N78-10493 *
US-PATENT-CLASS-73-505	c 35	N89-14422 *	US-PATENT-CLASS-73-756	c 35	N79-14347 *	US-PATENT-CLASS-73-94	c 14	N73-32323 *
US-PATENT-CLASS-73-510	c 18	N81-29152 *	US-PATENT-CLASS-73-756	c 35	N84-22934 *	US-PATENT-CLASS-73-95	c 15	N71-24834 *
US-PATENT-CLASS-73-515	c 14	N72-25410 *	US-PATENT-CLASS-73-756	c 35	N87-28884 *	US-PATENT-CLASS-73-95	c 14	N72-11364 *
US-PATENT-CLASS-73-517B	c 35	N74-15094 *	US-PATENT-CLASS-73-75	c 35	N85-34373 *	US-PATENT-CLASS-73-95	c 35	N76-18400 *
US-PATENT-CLASS-73-517R	c 17	N76-29347 *	US-PATENT-CLASS-73-761	c 33	N83-16626 *	US-PATENT-CLASS-73-95	c 35	N77-22450 *
US-PATENT-CLASS-73-517	c 11	N70-38196 *	US-PATENT-CLASS-73-76	c 06	N72-17095 *	US-PATENT-CLASS-73-95	c 31	N79-11246 *
US-PATENT-CLASS-73-517	c 14	N70-41682 *	US-PATENT-CLASS-73-770	c 39	N79-22537 *	US-PATENT-CLASS-73-97	c 14	N71-15600 *
US-PATENT-CLASS-73-517	c 14	N71-15969 *	US-PATENT-CLASS-73-781	c 52	N80-27072 *	US-PATENT-CLASS-73-99	c 14	N71-10781 *
US-PATENT-CLASS-73-521	c 14	N72-25410 *	US-PATENT-CLASS-73-794	c 35	N88-23967 *	US-PATENT-CLASS-73-9	c 14	N71-22995 *
US-PATENT-CLASS-73-521	c 35	N86-32695 *	US-PATENT-CLASS-73-79	c 14	N71-26161 *	US-PATENT-CLASS-73-9	c 35	N76-31489 *
US-PATENT-CLASS-73-557	c 35	N75-19614 *	US-PATENT-CLASS-73-7	c 25	N86-19413 *	US-PATENT-CLASS-73-9	c 15	N84-16231 *
US-PATENT-CLASS-73-557	c 07	N76-27232 *	US-PATENT-CLASS-73-801	c 35	N88-23966 *	US-PATENT-CLASS-74-100R	c 37	N78-31426 *
US-PATENT-CLASS-73-56	c 35	N80-18357 *	US-PATENT-CLASS-73-809	c 39	N87-25601 *	US-PATENT-CLASS-74-100	c 15	N71-24045 *
US-PATENT-CLASS-73-579	c 39	N78-15512 *	US-PATENT-CLASS-73-810	c 39	N79-22537 *	US-PATENT-CLASS-74-105	c 09	N72-22195 *
US-PATENT-CLASS-73-579	c 35	N79-10390 *	US-PATENT-CLASS-73-810	c 39	N87-25601 *	US-PATENT-CLASS-74-110	c 44	N83-14693 *
US-PATENT-CLASS-73-579	c 33	N83-16626 *	US-PATENT-CLASS-73-810	c 35	N88-23967 *	US-PATENT-CLASS-74-126	c 15	N71-21529 *
US-PATENT-CLASS-73-579	c 27	N85-20126 *	US-PATENT-CLASS-73-818	c 35	N83-21312 *	US-PATENT-CLASS-74-18.1	c 37	N82-24493 *
US-PATENT-CLASS-73-57	c 14	N71-17584 *	US-PATENT-CLASS-73-818	c 39	N83-32081 *	US-PATENT-CLASS-74-18.2	c 11	N71-27036 *
US-PATENT-CLASS-73-57	c 14	N73-14429 *	US-PATENT-CLASS-73-81	c 14	N73-32321 *	US-PATENT-CLASS-74-18.2	c 37	N82-24493 *
US-PATENT-CLASS-73-582	c 27	N85-20126 *	US-PATENT-CLASS-73-822	c 39	N83-32081 *	US-PATENT-CLASS-74-217R	c 37	N74-23070 *
US-PATENT-CLASS-73-583	c 71	N87-21652 *	US-PATENT-CLASS-73-827	c 39	N86-20841 *	US-PATENT-CLASS-74-2	c 15	N71-24600 *
US-PATENT-CLASS-73-587	c 35	N88-23966 *	US-PATENT-CLASS-73-82	c 43	N79-25443 *	US-PATENT-CLASS-74-2	c 31	N73-14855 *
US-PATENT-CLASS-73-588	c 37	N84-33807 *	US-PATENT-CLASS-73-82	c 43	N80-14423 *	US-PATENT-CLASS-74-384	c 37	N76-15457 *
US-PATENT-CLASS-73-588	c 27	N85-20126 *	US-PATENT-CLASS-73-82	c 43	N80-23711 *	US-PATENT-CLASS-74-385	c 07	N78-17056 *
US-PATENT-CLASS-73-589	c 35	N79-10390 *	US-PATENT-CLASS-73-831	c 35	N85-34375 *	US-PATENT-CLASS-74-409	c 15	N71-21744 *
US-PATENT-CLASS-73-589	c 35	N84-22933 *	US-PATENT-CLASS-73-833	c 24	N84-27829 *	US-PATENT-CLASS-74-417	c 07	N78-17056 *
US-PATENT-CLASS-73-589	c 71	N87-21652 *	US-PATENT-CLASS-73-834	c 37	N88-14361 *	US-PATENT-CLASS-74-417	c 37	N81-14318 *
US-PATENT-CLASS-73-594	c 35	N84-22933 *	US-PATENT-CLASS-73-84	c 14	N71-22765 *	US-PATENT-CLASS-74-417	c 37	N81-17432 *
US-PATENT-CLASS-73-597	c 33	N83-16626 *	US-PATENT-CLASS-73-84	c 14	N73-19420 *	US-PATENT-CLASS-74-424.8R	c 35	N87-21304 *
US-PATENT-CLASS-73-597	c 52	N83-27578 *	US-PATENT-CLASS-73-84	c 35	N77-27367 *	US-PATENT-CLASS-74-424.8B	c 37	N85-20338 *
US-PATENT-CLASS-73-597	c 32	N87-14559 *	US-PATENT-CLASS-73-856	c 39	N83-32081 *	US-PATENT-CLASS-74-424.8VA	c 37	N75-15050 *
US-PATENT-CLASS-73-599	c 71	N87-21652 *	US-PATENT-CLASS-73-856	c 24	N84-27829 *	US-PATENT-CLASS-74-424.8VA	c 37	N85-20338 *
US-PATENT-CLASS-73-599	c 71	N87-21653 *	US-PATENT-CLASS-73-856	c 35	N85-34375 *	US-PATENT-CLASS-74-424.8	c 15	N71-26635 *
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US-PATENT-2,960,002	c 14	N70-41946 *	US-PATENT-3,134,389	c 37	N79-33468 *	US-PATENT-3,197,616	c 14	N71-28958 *
US-PATENT-2,971,837	c 17	N70-33283 *	US-PATENT-3,135,089	c 28	N70-38504 *	US-PATENT-3,198,955	c 08	N70-34743 *
US-PATENT-2,974,925	c 28	N70-33372 *	US-PATENT-3,135,090	c 28	N70-38505 *	US-PATENT-3,198,994	c 26	N73-28710 *
US-PATENT-2,984,735	c 11	N70-33329 *	US-PATENT-3,135,123	c 28	N70-38199 *	US-PATENT-3,199,340	c 14	N70-34799 *
US-PATENT-2,991,671	c 15	N70-33330 *	US-PATENT-3,136,123	c 17	N70-38198 *	US-PATENT-3,199,343	c 11	N70-34844 *
US-PATENT-2,991,961	c 02	N70-33332 *	US-PATENT-3,136,837	c 17	N70-38198 *	US-PATENT-3,199,931	c 15	N70-34664 *
US-PATENT-2,996,212	c 31	N71-17680 *	US-PATENT-3,139,725	c 28	N70-38645 *	US-PATENT-3,200,706	c 03	N70-34667 *
US-PATENT-2,997,274	c 28	N71-29154 *	US-PATENT-3,140,728	c 15	N70-38698 *	US-PATENT-3,201,560	c 33	N70-34540 *
US-PATENT-3,001,363	c 28	N70-33331 *	US-PATENT-3,141,340	c 11	N70-38197 *	US-PATENT-3,201,635	c 25	N70-34661 *
US-PATENT-3,001,395	c 14	N70-33386 *	US-PATENT-3,141,932	c 03	N70-38713 *	US-PATENT-3,201,980	c 14	N70-40203 *
US-PATENT-3,001,739	c 03	N70-33343 *	US-PATENT-3,143,321	c 15	N70-34850 *	US-PATENT-3,202,381	c 31	N70-34176 *
US-PATENT-3,004,189	c 37	N75-29426 *	US-PATENT-3,143,651	c 14	N70-40240 *	US-PATENT-3,202,398	c 28	N71-28928 *
US-PATENT-3,004,735	c 14	N70-33322 *	US-PATENT-3,144,219	c 31	N70-38676 *	US-PATENT-3,202,844	c 03	N70-34134 *
US-PATENT-3,005,081	c 09	N70-33312 *	US-PATENT-3,144,999	c 02	N70-34856 *	US-PATENT-3,202,915	c 14	N70-38602 *
US-PATENT-3,005,339	c 11	N70-33287 *	US-PATENT-3,145,874	c 11	N71-15960 *	US-PATENT-3,202,998	c 31	N70-34135 *
US-PATENT-3,008,229	c 15	N70-33311 *	US-PATENT-3,147,422	c 09	N70-38712 *	US-PATENT-3,204,447	c 14	N70-34156 *
US-PATENT-3,010,372	c 15	N70-33180 *	US-PATENT-3,149,897	c 09	N70-36494 *	US-PATENT-3,204,889	c 03	N70-34157 *
US-PATENT-3,011,760	c 15	N70-33226 *	US-PATENT-3,150,329	c 09	N70-38995 *	US-PATENT-3,205,361	c 14	N70-34158 *
US-PATENT-3,012,400	c 28	N70-33374 *	US-PATENT-3,150,387	c 03	N70-36778 *	US-PATENT-3,205,362	c 21	N70-35089 *
US-PATENT-3,012,407	c 15	N70-33323 *	US-PATENT-3,152,344	c 05	N70-36493 *	US-PATENT-3,205,381	c 03	N70-35408 *
US-PATENT-3,016,693	c 28	N70-33356 *	US-PATENT-3,155,992	c 05	N70-34857 *	US-PATENT-3,206,141	c 21	N70-35395 *
US-PATENT-3,016,863	c 12	N70-33305 *	US-PATENT-3,156,090	c 28	N70-37245 *	US-PATENT-3,206,897	c 18	N75-27040 *
US-PATENT-3,022,672	c 14	N70-34816 *	US-PATENT-3,157,529	c 18	N70-36400 *	US-PATENT-3,208,215	c 28	N70-34162 *
US-PATENT-3,024,659	c 14	N70-34820 *	US-PATENT-3,158,172	c 15	N70-34817 *	US-PATENT-3,208,272	c 14	N70-34161 *
US-PATENT-3,028,122	c 02	N70-33286 *	US-PATENT-3,158,336	c 31	N70-36410 *	US-PATENT-3,208,694	c 02	N70-34160 *
US-PATENT-3,028,126	c 21	N70-33279 *	US-PATENT-3,158,764	c 03	N70-36803 *	US-PATENT-3,208,707	c 31	N70-34159 *
US-PATENT-3,028,128	c 31	N70-33242 *	US-PATENT-3,159,967	c 28	N70-36802 *	US-PATENT-3,209,360	c 09	N70-35219 *
US-PATENT-3,035,333	c 28	N70-41818 *	US-PATENT-3,160,825	c 14	N70-35220 *	US-PATENT-3,209,361	c 09	N70-35425 *
US-PATENT-3,038,077	c 21	N70-33181 *	US-PATENT-3,160,950	c 15	N70-36409 *	US-PATENT-3,210,927	c 28	N70-34175 *
US-PATENT-3,038,175	c 05	N70-33285 *	US-PATENT-3,162,012	c 14	N70-36411 *	US-PATENT-3,211,169	c 15	N70-35087 *
US-PATENT-3,041,587	c 14	N70-33179 *	US-PATENT-3,163,935	c 15	N70-36907 *	US-PATENT-3,211,414	c 15	N70-35407 *
US-PATENT-3,041,924	c 14	N70-33254 *	US-PATENT-3,164,222	c 15	N70-34861 *	US-PATENT-3,212,096	c 09	N70-35382 *
US-PATENT-3,045,424	c 28	N70-40367 *	US-PATENT-3,164,369	c 15	N70-36412 *	US-PATENT-3,212,259	c 28	N71-29153 *
US-PATENT-3,049,876	c 28	N70-33284 *	US-PATENT-3,165,356	c 05	N70-35152 *	US-PATENT-3,212,325	c 14	N70-34705 *
US-PATENT-3,053,484	c 02	N70-33255 *	US-PATENT-3,166,834	c 15	N70-36901 *	US-PATENT-3,212,564	c 33	N71-29052 *
US-PATENT-3,057,597	c 15	N70-33264 *	US-PATENT-3,167,426	c 17	N70-36616 *	US-PATENT-3,215,313	c 31	N79-21225 *
US-PATENT-3,059,220	c 09	N70-33182 *	US-PATENT-3,168,827	c 14	N70-36807 *	US-PATENT-3,215,572	c 12	N70-40124 *
US-PATENT-3,063,291	c 11	N70-33278 *	US-PATENT-3,169,001	c 02	N70-36825 *	US-PATENT-3,216,007	c 08	N70-40125 *
US-PATENT-3,064,928	c 02	N70-33266 *	US-PATENT-3,169,613	c 15	N70-36947 *	US-PATENT-3,217,624	c 14	N70-40273 *
US-PATENT-3,067,573	c 28	N70-39899 *	US-PATENT-3,169,725	c 31	N70-34296 *	US-PATENT-3,218,479	c 09	N70-40272 *
US-PATENT-3,068,658	c 15	N70-34247 *	US-PATENT-3,170,286	c 15	N70-36535 *	US-PATENT-3,218,547	c 09	N70-40123 *
US-PATENT-3,069,123	c 14	N70-39898 *	US-PATENT-3,170,290	c 28	N70-36910 *	US-PATENT-3,218,850	c 14	N70-40400 *
US-PATENT-3,070,330	c 21	N70-34539 *	US-PATENT-3,170,295	c 27	N71-28929 *	US-PATENT-3,219,250	c 15	N70-40204 *
US-PATENT-3,070,349	c 28	N70-39895 *	US-PATENT-3,170,324	c 14	N70-36824 *	US-PATENT-3,219,365	c 15	N71-28937 *
US-PATENT-3,070,407	c 15	N70-39896 *	US-PATENT-3,170,471	c 32	N70-36536 *	US-PATENT-3,219,997	c 08	N73-28045 *
US-PATENT-3,072,574	c 18	N70-39897 *	US-PATENT-3,170,486	c 15	N70-36492 *	US-PATENT-3,220,004	c 30	N70-40309 *
US-PATENT-3,076,065	c 09	N70-39915 *	US-PATENT-3,170,605	c 15	N70-38996 *	US-PATENT-3,221,547	c 14	N70-40201 *
US-PATENT-3,077,599	c 07	N70-40202 *	US-PATENT-3,170,657	c 02	N70-34858 *	US-PATENT-3,221,549	c 14	N70-40157 *
US-PATENT-3,079,113	c 02	N70-38009 *	US-PATENT-3,170,660	c 02	N70-36804 *	US-PATENT-3,223,374	c 15	N70-40156 *
US-PATENT-3,080,711	c 28	N70-38711 *	US-PATENT-3,170,773	c 17	N70-33288 *	US-PATENT-3,224,001	c 07	N70-40063 *
US-PATENT-3,083,611	c 21	N70-35427 *	US-PATENT-3,171,060	c 25	N70-33267 *	US-PATENT-3,224,173	c 15	N70-40062 *
US-PATENT-3,084,421	c 17	N70-38490 *	US-PATENT-3,171,081	c 14	N70-35666 *	US-PATENT-3,224,263	c 15	N70-40180 *
US-PATENT-3,085,165	c 09	N70-34819 *	US-PATENT-3,172,097	c 08	N70-35423 *	US-PATENT-3,224,336	c 30	N70-40353 *
US-PATENT-3,087,692	c 02	N70-34178 *	US-PATENT-3,173,246	c 28	N70-33265 *	US-PATENT-3,224,337	c 09	N79-21084 *
US-PATENT-3,088,441	c 15	N70-35409 *	US-PATENT-3,173,251	c 28	N70-33375 *	US-PATENT-3,224,492	c 15	N70-40354 *
US-PATENT-3,090,212	c 33	N70-37979 *	US-PATENT-3,173,801	c 32	N79-19186 *	US-PATENT-3,228,558	c 14	N70-40233 *
US-PATENT-3,090,580	c 31	N70-37924 *	US-PATENT-3,174,278	c 25	N70-36946 *	US-PATENT-3,229,099	c 14	N70-40238 *
US-PATENT-3,093,000	c 15	N70-37925 *	US-PATENT-3,174,279	c 28	N70-36806 *	US-PATENT-3,229,102	c 14	N70-40239 *
US-PATENT-3,093,346	c 31	N70-37938 *	US-PATENT-3,175,789	c 26	N70-36805 *	US-PATENT-3,229,139	c 28	N70-39925 *
US-PATENT-3,098,630	c 02	N70-37939 *	US-PATENT-3,176,222	c 31	N70-36654 *	US-PATENT-3,229,155	c 25	N70-41628 *
US-PATENT-3,100,294	c 09	N70-38998 *	US-PATENT-3,176,499	c 14	N70-36618 *	US-PATENT-3,229,463	c 28	N70-39931 *
US-PATENT-3,100,990	c 14	N70-34813 *	US-PATENT-3,176,933	c 33	N70-36617 *	US-PATENT-3,229,568	c 14	N70-40003 *
US-PATENT-3,102,948	c 15	N70-34814 *	US-PATENT-3,177,933	c 33	N70-36847 *	US-PATENT-3,229,636	c 03	N70-39930 *
US-PATENT-3,104,079	c 31	N70-37986 *	US-PATENT-3,178,883	c 21	N70-36938 *	US-PATENT-3,229,682	c 09	N70-40234 *
US-PATENT-3,104,082	c 02	N70-38011 *	US-PATENT-3,180,264	c 33	N70-36846 *	US-PATENT-3,229,689	c 05	N70-39922 *
US-PATENT-3,105,515	c 15	N70-38603 *	US-PATENT-3,180,587	c 21	N70-36943 *	US-PATENT-3,229,884	c 15	N70-39924 *
US-PATENT-3,106,603	c 09	N70-38201 *	US-PATENT-3,181,821	c 31	N70-36845 *	US-PATENT-3,229,905	c 04	N78-17031 *
US-PATENT-3,108,171	c 33	N70-34812 *	US-PATENT-3,182,496	c 11	N70-36913 *	US-PATENT-3,229,930	c 30	N70-40016 *
US-PATENT-3,110,318	c 12	N70-38997 *	US-PATENT-3,183,506	c 07	N70-36911 *	US-PATENT-3,230,053	c 26	N70-40015 *
US-PATENT-3,112,672	c 11	N70-38202 *	US-PATENT-3,185,023	c 14	N70-34298 *	US-PATENT-3,233,862	c 37	N79-33469 *
US-PATENT-3,115,630	c 31	N70-37981 *	US-PATENT-3,187,583	c 11	N70-38675 *	US-PATENT-3,236,066	c 15	N71-28959 *
US-PATENT-3,118,100	c 03	N71-29129 *	US-PATENT-3,188,474	c 21	N70-34297 *	US-PATENT-3,237,253	c 15	N71-15966 *
US-PATENT-3,119,086	c 35	N79-33449 *	US-PATENT-3,188,844	c 15	N70-34249 *	US-PATENT-3,238,345	c 11	N71-15925 *
US-PATENT-3,119,232	c 28	N70-37980 *	US-PATENT-3,189,299	c 21	N70-34295 *	US-PATENT-3,238,413	c 25	N71-29184 *
US-PATENT-3,120,101	c 28	N70-34860 *	US-PATENT-3,189,535	c 15	N70-34296 *	US-PATENT-3,238,715	c 28	N71-14043 *
			US-PATENT-3,189,726	c 33	N70-34967 *	US-PATENT-3,238,730	c 03	N71-12260 *
			US-PATENT-3,189,784	c 33	N70-34545 *	US-PATENT-3,238,774	c 14	N71-14996 *
					N75-27250 *	US-PATENT-3,238,777	c 14	N71-15598 *

US-PATENT-3,239,660	c 23	N71-30292 *	US-PATENT-3,286,274	c 05	N71-12335 *	US-PATENT-3,316,716	c 28	N71-10780 *
US-PATENT-3,242,716	c 14	N71-15992 *	US-PATENT-3,286,531	c 30	N71-17788 *	US-PATENT-3,316,752	c 14	N71-10779 *
US-PATENT-3,243,154	c 23	N71-15673 *	US-PATENT-3,286,629	c 31	N71-17730 *	US-PATENT-3,316,991	c 14	N71-10777 *
US-PATENT-3,243,791	c 07	N71-11298 *	US-PATENT-3,286,630	c 31	N71-10582 *	US-PATENT-3,317,180	c 15	N71-10778 *
US-PATENT-3,244,943	c 15	N73-28516 *	US-PATENT-3,286,882	c 27	N71-29155 *	US-PATENT-3,317,341	c 18	N71-10772 *
US-PATENT-3,249,012	c 03	N71-12258 *	US-PATENT-3,286,953	c 21	N70-41856 *	US-PATENT-3,317,352	c 03	N71-10728 *
US-PATENT-3,249,013	c 03	N71-12259 *	US-PATENT-3,286,957	c 02	N70-41863 *	US-PATENT-3,317,641	c 15	N71-10672 *
US-PATENT-3,251,053	c 08	N71-12501 *	US-PATENT-3,287,031	c 15	N70-41808 *	US-PATENT-3,317,731	c 21	N71-10771 *
US-PATENT-3,252,100	c 10	N71-28960 *	US-PATENT-3,287,174	c 03	N70-41864 *	US-PATENT-3,317,751	c 09	N71-10673 *
US-PATENT-3,254,395	c 28	N71-15658 *	US-PATENT-3,287,496	c 14	N70-41807 *	US-PATENT-3,317,797	c 10	N71-28783 *
US-PATENT-3,254,487	c 28	N71-15659 *	US-PATENT-3,287,582	c 28	N70-41576 *	US-PATENT-3,317,832	c 09	N71-10659 *
US-PATENT-3,257,780	c 15	N71-15968 *	US-PATENT-3,287,640	c 09	N70-41655 *	US-PATENT-3,318,093	c 15	N71-10658 *
US-PATENT-3,258,582	c 02	N71-13421 *	US-PATENT-3,287,660	c 16	N70-41578 *	US-PATENT-3,318,096	c 28	N71-28849 *
US-PATENT-3,258,687	c 14	N71-15962 *	US-PATENT-3,287,725	c 07	N70-41680 *	US-PATENT-3,318,343	c 15	N71-10809 *
US-PATENT-3,258,831	c 15	N71-15986 *	US-PATENT-3,289,205	c 07	N70-41678 *	US-PATENT-3,318,622	c 15	N71-10799 *
US-PATENT-3,258,912	c 27	N71-15634 *	US-PATENT-3,295,360	c 14	N70-41681 *	US-PATENT-3,319,175	c 09	N71-10798 *
US-PATENT-3,258,918	c 27	N71-15635 *	US-PATENT-3,295,366	c 11	N70-41677 *	US-PATENT-3,319,979	c 15	N71-10782 *
US-PATENT-3,260,055	c 23	N71-15467 *	US-PATENT-3,295,377	c 14	N70-41682 *	US-PATENT-3,320,669	c 15	N70-42017 *
US-PATENT-3,260,204	c 31	N71-15692 *	US-PATENT-3,295,386	c 05	N70-41581 *	US-PATENT-3,321,034	c 15	N70-42034 *
US-PATENT-3,260,326	c 11	N71-28779 *	US-PATENT-3,295,512	c 03	N70-41580 *	US-PATENT-3,321,154	c 31	N70-42075 *
US-PATENT-3,261,210	c 14	N71-15969 *	US-PATENT-3,295,545	c 15	N70-41646 *	US-PATENT-3,321,157	c 02	N70-42016 *
US-PATENT-3,262,025	c 15	N73-32361 *	US-PATENT-3,295,556	c 32	N70-41579 *	US-PATENT-3,321,159	c 31	N70-42015 *
US-PATENT-3,262,186	c 15	N71-16052 *	US-PATENT-3,295,594	c 54	N82-29002 *	US-PATENT-3,321,570	c 15	N70-41960 *
US-PATENT-3,262,262	c 28	N71-15661 *	US-PATENT-3,295,684	c 28	N70-41447 *	US-PATENT-3,321,628	c 10	N70-41991 *
US-PATENT-3,262,351	c 15	N71-15922 *	US-PATENT-3,295,699	c 32	N70-41367 *	US-PATENT-3,321,645	c 10	N70-42032 *
US-PATENT-3,262,365	c 31	N71-15675 *	US-PATENT-3,295,782	c 14	N70-41647 *	US-PATENT-3,321,922	c 28	N70-41992 *
US-PATENT-3,262,395	c 15	N71-30028 *	US-PATENT-3,295,790	c 31	N70-41588 *	US-PATENT-3,323,356	c 15	N70-41993 *
US-PATENT-3,262,518	c 05	N71-11199 *	US-PATENT-3,295,798	c 02	N70-41589 *	US-PATENT-3,323,362	c 14	N70-41994 *
US-PATENT-3,262,655	c 31	N71-15663 *	US-PATENT-3,295,808	c 15	N70-41310 *	US-PATENT-3,323,370	c 05	N70-42000 *
US-PATENT-3,262,694	c 44	N79-19447 *	US-PATENT-3,296,060	c 18	N70-41583 *	US-PATENT-3,323,386	c 03	N70-42073 *
US-PATENT-3,263,016	c 33	N71-15625 *	US-PATENT-3,296,526	c 14	N70-41332 *	US-PATENT-3,323,408	c 14	N70-41955 *
US-PATENT-3,263,171	c 09	N71-13530 *	US-PATENT-3,296,531	c 07	N70-41331 *	US-PATENT-3,323,484	c 14	N70-42074 *
US-PATENT-3,263,610	c 15	N71-13789 *	US-PATENT-3,298,175	c 33	N71-29053 *	US-PATENT-3,323,967	c 15	N70-42033 *
US-PATENT-3,264,135	c 15	N71-16075 *	US-PATENT-3,298,182	c 28	N70-41311 *	US-PATENT-3,324,370	c 09	N71-10677 *
US-PATENT-3,270,441	c 11	N71-16028 *	US-PATENT-3,298,221	c 14	N70-41330 *	US-PATENT-3,324,388	c 14	N71-10797 *
US-PATENT-3,270,499	c 28	N71-15660 *	US-PATENT-3,298,285	c 32	N70-41370 *	US-PATENT-3,324,423	c 07	N71-10676 *
US-PATENT-3,270,501	c 31	N71-15647 *	US-PATENT-3,298,362	c 05	N70-41329 *	US-PATENT-3,324,659	c 28	N71-10574 *
US-PATENT-3,270,503	c 33	N71-15623 *	US-PATENT-3,298,582	c 14	N71-28935 *	US-PATENT-3,325,229	c 15	N71-10617 *
US-PATENT-3,270,504	c 31	N71-15637 *	US-PATENT-3,299,364	c 16	N71-15550 *	US-PATENT-3,325,723	c 10	N71-10578 *
US-PATENT-3,270,505	c 21	N71-15582 *	US-PATENT-3,299,431	c 07	N71-28979 *	US-PATENT-3,325,749	c 09	N71-28810 *
US-PATENT-3,270,512	c 15	N71-15906 *	US-PATENT-3,299,913	c 15	N71-15918 *	US-PATENT-3,326,043	c 14	N71-10500 *
US-PATENT-3,270,565	c 14	N71-30265 *	US-PATENT-3,300,162	c 31	N70-41373 *	US-PATENT-3,326,407	c 15	N71-10577 *
US-PATENT-3,270,756	c 15	N71-15967 *	US-PATENT-3,300,731	c 07	N70-41372 *	US-PATENT-3,327,298	c 08	N71-21042 *
US-PATENT-3,270,802	c 33	N71-24876 *	US-PATENT-3,300,847	c 15	N70-41371 *	US-PATENT-3,327,991	c 15	N71-21234 *
US-PATENT-3,270,835	c 28	N70-41582 *	US-PATENT-3,300,949	c 05	N70-41297 *	US-PATENT-3,328,624	c 28	N71-28850 *
US-PATENT-3,270,908	c 31	N71-15664 *	US-PATENT-3,300,981	c 28	N70-41275 *	US-PATENT-3,329,375	c 21	N71-21708 *
US-PATENT-3,270,985	c 21	N71-15583 *	US-PATENT-3,301,046	c 14	N70-41366 *	US-PATENT-3,329,918	c 09	N71-21583 *
US-PATENT-3,270,986	c 05	N71-12336 *	US-PATENT-3,301,315	c 09	N70-41717 *	US-PATENT-3,330,052	c 11	N71-21474 *
US-PATENT-3,270,988	c 01	N71-13410 *	US-PATENT-3,301,507	c 31	N70-41631 *	US-PATENT-3,330,082	c 15	N71-21531 *
US-PATENT-3,270,989	c 02	N71-11041 * #	US-PATENT-3,301,511	c 02	N70-41630 *	US-PATENT-3,330,510	c 31	N71-28851 *
US-PATENT-3,270,990	c 28	N71-15563 *	US-PATENT-3,301,578	c 15	N70-41629 *	US-PATENT-3,330,549	c 15	N71-21530 *
US-PATENT-3,271,140	c 17	N71-15644 *	US-PATENT-3,302,023	c 14	N70-41676 *	US-PATENT-3,331,071	c 07	N71-28900 *
US-PATENT-3,271,181	c 15	N71-16077 *	US-PATENT-3,302,040	c 09	N70-41675 *	US-PATENT-3,331,246	c 11	N71-21475 *
US-PATENT-3,271,532	c 09	N71-16089 *	US-PATENT-3,302,569	c 15	N70-41679 *	US-PATENT-3,331,255	c 15	N71-21529 *
US-PATENT-3,271,558	c 15	N71-15871 *	US-PATENT-3,302,633	c 05	N70-41819 *	US-PATENT-3,331,404	c 12	N71-21088 *
US-PATENT-3,271,584	c 10	N71-28739 *	US-PATENT-3,302,662	c 15	N70-41811 *	US-PATENT-3,331,951	c 21	N71-21689 *
US-PATENT-3,271,620	c 09	N71-12540 *	US-PATENT-3,302,960	c 15	N70-41829 *	US-PATENT-3,333,152	c 25	N71-21693 *
US-PATENT-3,271,637	c 26	N71-18064 *	US-PATENT-3,303,304	c 14	N70-41812 *	US-PATENT-3,333,788	c 31	N71-21881 *
US-PATENT-3,271,649	c 10	N71-16030 *	US-PATENT-3,304,028	c 31	N70-41855 *	US-PATENT-3,334,225	c 14	N73-32325 *
US-PATENT-3,273,094	c 23	N71-29049 *	US-PATENT-3,304,718	c 28	N70-41922 *	US-PATENT-3,336,725	c 15	N71-21528 *
US-PATENT-3,273,355	c 33	N71-17897 *	US-PATENT-3,304,724	c 31	N70-41948 *	US-PATENT-3,336,748	c 25	N71-21694 *
US-PATENT-3,273,381	c 32	N71-17645 *	US-PATENT-3,304,729	c 31	N70-41871 *	US-PATENT-3,336,754	c 28	N71-22983 *
US-PATENT-3,273,388	c 09	N71-16086 *	US-PATENT-3,304,768	c 32	N70-42003 *	US-PATENT-3,337,004	c 14	N71-23092 *
US-PATENT-3,273,392	c 23	N71-17802 *	US-PATENT-3,304,773	c 14	N70-41957 *	US-PATENT-3,337,279	c 05	N71-23080 *
US-PATENT-3,273,399	c 12	N71-24692 *	US-PATENT-3,304,799	c 03	N70-41954 *	US-PATENT-3,337,315	c 18	N71-23088 *
US-PATENT-3,274,304	c 26	N71-17818 *	US-PATENT-3,304,865	c 28	N70-41967 *	US-PATENT-3,337,337	c 18	N71-22894 *
US-PATENT-3,275,794	c 37	N75-27376 *	US-PATENT-3,305,415	c 27	N70-41897 *	US-PATENT-3,337,790	c 12	N71-20896 *
US-PATENT-3,276,251	c 11	N71-15926 *	US-PATENT-3,305,636	c 08	N70-41961 *	US-PATENT-3,337,812	c 09	N71-23097 *
US-PATENT-3,276,376	c 31	N71-17629 *	US-PATENT-3,305,801	c 10	N70-41964 *	US-PATENT-3,339,404	c 14	N71-22765 *
US-PATENT-3,276,602	c 32	N71-17609 *	US-PATENT-3,305,810	c 09	N70-41929 *	US-PATENT-3,339,863	c 14	N71-23040 *
US-PATENT-3,276,679	c 15	N71-16079 *	US-PATENT-3,305,861	c 21	N70-41930 *	US-PATENT-3,340,099	c 03	N71-23006 *
US-PATENT-3,276,722	c 02	N71-16087 *	US-PATENT-3,305,870	c 07	N71-15907 *	US-PATENT-3,340,395	c 14	N71-23041 *
US-PATENT-3,276,726	c 31	N71-16081 *	US-PATENT-3,306,134	c 37	N78-17385 *	US-PATENT-3,340,397	c 11	N71-23042 *
US-PATENT-3,276,865	c 17	N71-16025 *	US-PATENT-3,308,848	c 12	N71-16031 *	US-PATENT-3,340,430	c 09	N71-22796 *
US-PATENT-3,276,866	c 17	N71-16026 *	US-PATENT-3,309,012	c 33	N71-17610 *	US-PATENT-3,340,532	c 10	N71-21473 *
US-PATENT-3,276,946	c 23	N71-15978 *	US-PATENT-3,309,961	c 15	N71-16078 *	US-PATENT-3,340,599	c 09	N71-23027 *
US-PATENT-3,277,314	c 10	N71-16042 *	US-PATENT-3,310,054	c 08	N71-15908 *	US-PATENT-3,340,713	c 15	N71-22723 *
US-PATENT-3,277,366	c 10	N71-16057 *	US-PATENT-3,310,138	c 12	N71-16894 *	US-PATENT-3,340,732	c 02	N71-23007 *
US-PATENT-3,277,373	c 07	N71-16088 *	US-PATENT-3,310,256	c 31	N71-17679 *	US-PATENT-3,341,151	c 31	N71-23009 *
US-PATENT-3,277,375	c 07	N71-11284 *	US-PATENT-3,310,258	c 31	N71-17691 *	US-PATENT-3,341,169	c 15	N71-23024 *
US-PATENT-3,277,458	c 10	N71-16058 *	US-PATENT-3,310,261	c 02	N71-11038 *	US-PATENT-3,341,708	c 16	N71-22895 *
US-PATENT-3,277,486	c 31	N71-10747 *	US-PATENT-3,310,262	c 02	N71-12243 *	US-PATENT-3,341,778	c 07	N71-23098 *
US-PATENT-3,279,193	c 33	N71-28852 *	US-PATENT-3,310,443	c 24	N71-10560 *	US-PATENT-3,341,977	c 15	N71-22705 *
US-PATENT-3,281,558	c 33	N75-27249 *	US-PATENT-3,310,699	c 14	N73-32324 *	US-PATENT-3,342,055	c 15	N71-22797 *
US-PATENT-3,281,963	c 11	N71-10746 *	US-PATENT-3,310,765	c 33	N79-21264 *	US-PATENT-3,342,066	c 11	N71-23030 *
US-PATENT-3,281,964	c 11	N71-10776 *	US-PATENT-3,310,978	c 14	N71-10616 *	US-PATENT-3,342,653	c 15	N71-22713 *
US-PATENT-3,281,965	c 11	N71-10748 *	US-PATENT-3,310,980	c 11	N71-10604 *	US-PATENT-3,343,180	c 05	N71-23159 *
US-PATENT-3,282,035	c 11	N71-10777 *	US-PATENT-3,311,315	c 07	N71-10609 *	US-PATENT-3,343,189	c 05	N71-22746 *
US-PATENT-3,282,091	c 14	N71-10781 *	US-PATENT-3,311,502	c 03	N71-10608 *	US-PATENT-3,344,340	c 09	N71-21449 *
US-PATENT-3,282,532	c 31	N71-17729 *	US-PATENT-3,311,510	c 26	N71-10607 *	US-PATENT-3,344,425	c 10	N71-21483 *
US-PATENT-3,282,541	c 31	N71-24750 *	US-PATENT-3,311,571	c 27	N79-21190 *	US-PATENT-3,345,820	c 28	N71-21822 *
US-PATENT-3,282,739	c 03	N71-11053 *	US-PATENT-3,311,748	c 21	N71-10678 *	US-PATENT-3,345,822	c 27	N71-21819 *
US-PATENT-3,282,740	c 03	N71-11051 *	US-PATENT-3,311,772	c 09	N71-10618 *	US-PATENT-3,345,840	c 15	N71-21536 *
US-PATENT-3,283,088	c 10	N71-15909 *	US-PATENT-3,311,832	c 07	N71-10775 *	US-PATENT-3,345,866	c 11	N71-21481 *
US-PATENT-3,283,175	c 10	N71-15910 *	US-PATENT-3,312,101	c 14	N71-10774 *	US-PATENT-3,346,419	c 03	N71-20895 *
US-PATENT-3,283,241	c 14	N71-16014 *	US-PATENT-3,313,204	c 28	N73-24783 *	US-PATENT-3,346,442	c 18	N71-21651 *

US-PATENT-3,346,515	c 06	N71-20905 *	US-PATENT-3,376,730	c 14	N71-22995 *	US-PATENT-3,409,730	c 33	N71-24145 *
US-PATENT-3,346,724	c 15	N71-21179 *	US-PATENT-3,377,208	c 14	N71-23039 *	US-PATENT-3,411,356	c 14	N71-23226 *
US-PATENT-3,346,806	c 14	N71-21090 *	US-PATENT-3,377,845	c 14	N71-22992 *	US-PATENT-3,411,900	c 26	N75-27126 *
US-PATENT-3,346,929	c 15	N71-21076 *	US-PATENT-3,378,315	c 15	N71-22997 *	US-PATENT-3,412,559	c 28	N71-23293 *
US-PATENT-3,347,046	c 33	N71-21507 *	US-PATENT-3,378,657	c 33	N79-33392 *	US-PATENT-3,412,598	c 14	N71-23225 *
US-PATENT-3,347,309	c 33	N71-29046 *	US-PATENT-3,378,851	c 05	N71-23096 *	US-PATENT-3,412,729	c 04	N71-23185 *
US-PATENT-3,347,465	c 18	N71-21068 *	US-PATENT-3,378,892	c 15	N71-22994 *	US-PATENT-3,412,961	c 32	N71-23971 *
US-PATENT-3,347,466	c 28	N71-21493 *	US-PATENT-3,379,052	c 14	N73-32321 *	US-PATENT-3,413,115	c 17	N71-23365 *
US-PATENT-3,347,531	c 15	N71-21177 *	US-PATENT-3,379,064	c 14	N71-23093 *	US-PATENT-3,413,393	c 17	N71-29137 *
US-PATENT-3,347,665	c 17	N71-20743 *	US-PATENT-3,379,330	c 23	N71-22881 *	US-PATENT-3,413,510	c 09	N71-23190 *
US-PATENT-3,348,048	c 14	N71-21088 *	US-PATENT-3,379,885	c 09	N71-22985 *	US-PATENT-3,413,536	c 03	N71-24605 *
US-PATENT-3,348,053	c 10	N71-20782 *	US-PATENT-3,379,974	c 14	N71-22990 *	US-PATENT-3,414,012	c 09	N71-23191 *
US-PATENT-3,348,152	c 10	N71-20841 *	US-PATENT-3,380,042	c 07	N71-23001 *	US-PATENT-3,414,358	c 14	N71-23175 *
US-PATENT-3,348,218	c 10	N71-29135 *	US-PATENT-3,380,049	c 10	N71-23099 *	US-PATENT-3,415,032	c 15	N71-23256 *
US-PATENT-3,349,814	c 33	N71-20834 *	US-PATENT-3,381,339	c 06	N71-22975 *	US-PATENT-3,415,069	c 15	N71-24044 *
US-PATENT-3,350,033	c 14	N71-21082 *	US-PATENT-3,381,517	c 09	N71-22988 *	US-PATENT-3,415,116	c 14	N71-23790 *
US-PATENT-3,350,034	c 31	N71-21064 *	US-PATENT-3,381,527	c 15	N71-22878 *	US-PATENT-3,415,126	c 21	N71-23289 *
US-PATENT-3,350,643	c 07	N71-20791 *	US-PATENT-3,381,569	c 21	N71-22880 *	US-PATENT-3,415,156	c 15	N71-24043 *
US-PATENT-3,350,671	c 09	N71-20842 *	US-PATENT-3,381,778	c 15	N71-22877 *	US-PATENT-3,415,643	c 17	N71-23248 *
US-PATENT-3,350,926	c 14	N71-21091 *	US-PATENT-3,382,082	c 18	N71-22998 *	US-PATENT-3,416,106	c 09	N71-24808 *
US-PATENT-3,352,157	c 14	N71-21072 *	US-PATENT-3,382,105	c 03	N71-29044 *	US-PATENT-3,416,274	c 31	N71-24035 *
US-PATENT-3,352,192	c 15	N71-21489 *	US-PATENT-3,382,107	c 03	N71-22974 *	US-PATENT-3,416,939	c 18	N71-24183 *
US-PATENT-3,352,774	c 37	N80-14395 *	US-PATENT-3,382,714	c 14	N71-22989 *	US-PATENT-3,416,975	c 17	N71-23828 *
US-PATENT-3,353,359	c 28	N71-20942 *	US-PATENT-3,383,461	c 07	N71-23026 *	US-PATENT-3,416,988	c 15	N71-24164 *
US-PATENT-3,354,098	c 06	N71-20717 *	US-PATENT-3,383,524	c 10	N71-23029 *	US-PATENT-3,417,247	c 14	N71-23797 *
US-PATENT-3,354,320	c 23	N71-21821 *	US-PATENT-3,383,922	c 14	N71-22752 *	US-PATENT-3,417,298	c 09	N71-23270 *
US-PATENT-3,354,462	c 14	N71-21006 *	US-PATENT-3,384,016	c 31	N71-23008 *	US-PATENT-3,417,316	c 10	N71-23271 *
US-PATENT-3,355,861	c 18	N71-20742 *	US-PATENT-3,384,075	c 05	N71-22896 *	US-PATENT-3,417,321	c 14	N71-23174 *
US-PATENT-3,355,948	c 14	N71-21007 *	US-PATENT-3,384,111	c 05	N71-22706 *	US-PATENT-3,417,332	c 09	N71-23316 *
US-PATENT-3,356,320	c 05	N71-20718 *	US-PATENT-3,384,224	c 15	N71-22706 *	US-PATENT-3,417,332	c 07	N71-23405 *
US-PATENT-3,356,549	c 15	N71-21404 *	US-PATENT-3,384,320	c 33	N71-22792 *	US-PATENT-3,417,399	c 30	N71-23723 *
US-PATENT-3,356,885	c 25	N71-20747 *	US-PATENT-3,384,820	c 09	N71-23021 *	US-PATENT-3,417,400	c 07	N71-28809 *
US-PATENT-3,356,917	c 33	N79-21265 *	US-PATENT-3,384,895	c 07	N71-22984 *	US-PATENT-3,419,329	c 14	N71-23268 *
US-PATENT-3,357,024	c 12	N71-20815 *	US-PATENT-3,385,036	c 15	N71-22721 *	US-PATENT-3,419,363	c 18	N71-23710 *
US-PATENT-3,357,093	c 15	N71-21078 *	US-PATENT-3,386,337	c 15	N71-22799 *	US-PATENT-3,419,384	c 17	N73-28573 *
US-PATENT-3,357,237	c 33	N71-21586 *	US-PATENT-3,386,685	c 31	N71-22968 *	US-PATENT-3,419,433	c 03	N71-23187 *
US-PATENT-3,357,862	c 03	N71-20904 *	US-PATENT-3,386,686	c 31	N71-22969 *	US-PATENT-3,419,531	c 27	N79-21191 *
US-PATENT-3,358,264	c 09	N71-20851 *	US-PATENT-3,387,149	c 14	N71-22993 *	US-PATENT-3,419,537	c 06	N71-23500 *
US-PATENT-3,359,046	c 15	N71-20739 *	US-PATENT-3,387,218	c 37	N78-17386 *	US-PATENT-3,419,827	c 09	N71-23548 *
US-PATENT-3,359,132	c 09	N71-20705 *	US-PATENT-3,388,258	c 14	N71-22996 *	US-PATENT-3,419,964	c 14	N69-21363 *
US-PATENT-3,359,409	c 07	N71-21476 *	US-PATENT-3,388,387	c 10	N71-23033 *	US-PATENT-3,419,992	c 14	N71-23401 *
US-PATENT-3,359,435	c 15	N71-21311 *	US-PATENT-3,388,590	c 14	N71-23087 *	US-PATENT-3,420,069	c 15	N69-21465 *
US-PATENT-3,359,555	c 09	N71-20864 *	US-PATENT-3,389,017	c 15	N71-23022 *	US-PATENT-3,420,223	c 05	N69-21925 *
US-PATENT-3,359,568	c 54	N78-17680 *	US-PATENT-3,389,260	c 14	N71-23269 *	US-PATENT-3,420,225	c 05	N69-21473 *
US-PATENT-3,359,819	c 15	N71-21744 *	US-PATENT-3,389,346	c 10	N71-28859 *	US-PATENT-3,420,253	c 12	N69-21466 *
US-PATENT-3,359,855	c 23	N71-21882 *	US-PATENT-3,389,877	c 15	N71-28936 *	US-PATENT-3,420,338	c 15	N71-26243 *
US-PATENT-3,360,798	c 09	N71-20658 *	US-PATENT-3,390,017	c 03	N71-23336 *	US-PATENT-3,420,471	c 05	N69-21380 *
US-PATENT-3,360,864	c 14	N71-24693 *	US-PATENT-3,390,020	c 26	N71-23654 *	US-PATENT-3,420,704	c 15	N69-21460 *
US-PATENT-3,360,972	c 15	N71-24833 *	US-PATENT-3,390,023	c 26	N75-29236 *	US-PATENT-3,420,945	c 09	N69-21542 *
US-PATENT-3,360,980	c 14	N71-20741 *	US-PATENT-3,390,282	c 09	N71-23311 *	US-PATENT-3,420,978	c 15	N69-21471 *
US-PATENT-3,360,988	c 09	N71-20816 *	US-PATENT-3,390,378	c 08	N71-23295 *	US-PATENT-3,421,004	c 14	N71-19568 *
US-PATENT-3,361,045	c 15	N71-21060 *	US-PATENT-3,390,528	c 20	N79-21124 *	US-PATENT-3,421,053	c 15	N69-21472 *
US-PATENT-3,361,067	c 26	N71-21824 *	US-PATENT-3,391,080	c 15	N71-24046 *	US-PATENT-3,421,056	c 14	N69-23191 *
US-PATENT-3,361,400	c 15	N71-20813 *	US-PATENT-3,392,403	c 23	N71-23976 *	US-PATENT-3,421,105	c 09	N69-21543 *
US-PATENT-3,361,666	c 15	N71-21403 *	US-PATENT-3,392,586	c 14	N71-24232 *	US-PATENT-3,421,134	c 09	N69-21470 *
US-PATENT-3,361,985	c 10	N71-20852 *	US-PATENT-3,392,864	c 18	N71-23658 *	US-PATENT-3,421,331	c 15	N69-23190 *
US-PATENT-3,364,311	c 07	N71-20814 *	US-PATENT-3,392,865	c 15	N71-23816 *	US-PATENT-3,421,363	c 11	N69-21540 *
US-PATENT-3,364,366	c 09	N71-28926 *	US-PATENT-3,392,936	c 01	N71-23497 *	US-PATENT-3,421,506	c 05	N69-23192 *
US-PATENT-3,364,578	c 14	N71-21079 *	US-PATENT-3,393,059	c 06	N71-23499 *	US-PATENT-3,421,541	c 15	N69-21924 *
US-PATENT-3,364,631	c 32	N71-21045 *	US-PATENT-3,393,330	c 22	N71-23599 *	US-PATENT-3,421,549	c 03	N69-21469 *
US-PATENT-3,364,777	c 15	N71-20740 *	US-PATENT-3,393,332	c 09	N71-23443 *	US-PATENT-3,421,591	c 14	N69-21923 *
US-PATENT-3,364,813	c 09	N71-22999 *	US-PATENT-3,393,347	c 10	N71-23543 *	US-PATENT-3,421,700	c 15	N69-23185 *
US-PATENT-3,365,657	c 10	N71-22961 *	US-PATENT-3,393,380	c 10	N71-23544 *	US-PATENT-3,421,768	c 15	N69-21362 *
US-PATENT-3,365,665	c 14	N71-23037 *	US-PATENT-3,393,384	c 09	N71-23573 *	US-PATENT-3,421,864	c 17	N71-23046 *
US-PATENT-3,365,897	c 33	N71-28892 *	US-PATENT-3,394,286	c 14	N73-30391 *	US-PATENT-3,421,948	c 03	N69-21337 *
US-PATENT-3,365,930	c 14	N71-22964 *	US-PATENT-3,394,359	c 08	N71-28925 *	US-PATENT-3,422,213	c 03	N69-21539 *
US-PATENT-3,365,941	c 14	N71-22965 *	US-PATENT-3,394,975	c 23	N71-30027 *	US-PATENT-3,422,278	c 09	N69-21468 *
US-PATENT-3,366,886	c 10	N71-22962 *	US-PATENT-3,395,053	c 18	N71-23047 *	US-PATENT-3,422,291	c 25	N69-21929 *
US-PATENT-3,366,894	c 10	N71-23084 *	US-PATENT-3,395,565	c 14	N73-30390 *	US-PATENT-3,422,324	c 14	N69-21541 *
US-PATENT-3,367,114	c 28	N71-23081 *	US-PATENT-3,396,057	c 26	N71-23043 *	US-PATENT-3,422,352	c 14	N71-19431 *
US-PATENT-3,367,121	c 15	N71-23025 *	US-PATENT-3,396,184	c 06	N71-28808 *	US-PATENT-3,422,354	c 09	N69-21926 *
US-PATENT-3,367,182	c 33	N71-23085 *	US-PATENT-3,396,303	c 09	N71-22987 *	US-PATENT-3,422,390	c 09	N69-21927 *
US-PATENT-3,367,224	c 15	N71-22798 *	US-PATENT-3,396,584	c 14	N71-30026 *	US-PATENT-3,422,403	c 08	N69-21928 *
US-PATENT-3,367,271	c 15	N71-24042 *	US-PATENT-3,396,719	c 52	N79-21750 *	US-PATENT-3,422,440	c 09	N69-21467 *
US-PATENT-3,367,308	c 11	N71-22875 *	US-PATENT-3,396,920	c 31	N71-29050 *	US-PATENT-3,423,179	c 15	N69-21922 *
US-PATENT-3,367,445	c 15	N71-23048 *	US-PATENT-3,397,094	c 26	N71-29156 *	US-PATENT-3,423,290	c 06	N71-17705 *
US-PATENT-3,368,486	c 15	N71-22874 *	US-PATENT-3,397,117	c 15	N71-23086 *	US-PATENT-3,423,579	c 09	N71-19480 *
US-PATENT-3,369,222	c 08	N71-22707 *	US-PATENT-3,397,318	c 14	N71-22991 *	US-PATENT-3,423,608	c 09	N69-21313 *
US-PATENT-3,369,223	c 08	N71-22710 *	US-PATENT-3,397,512	c 15	N71-23023 *	US-PATENT-3,423,627	c 33	N78-17293 *
US-PATENT-3,369,564	c 15	N71-23051 *	US-PATENT-3,397,537	c 20	N79-21125 *	US-PATENT-3,424,966	c 10	N71-20448 *
US-PATENT-3,370,039	c 06	N71-28807 *	US-PATENT-3,397,932	c 15	N71-22982 *	US-PATENT-3,425,131	c 15	N71-19489 *
US-PATENT-3,372,588	c 33	N71-29051 *	US-PATENT-3,399,299	c 10	N71-23662 *	US-PATENT-3,425,268	c 14	N69-39975 *
US-PATENT-3,373,016	c 26	N75-27127 *	US-PATENT-3,399,574	c 32	N71-24285 *	US-PATENT-3,425,272	c 14	N71-20439 *
US-PATENT-3,373,069	c 15	N71-23052 *	US-PATENT-3,402,265	c 09	N73-28084 *	US-PATENT-3,425,276	c 14	N69-24257 *
US-PATENT-3,373,404	c 08	N71-22749 *	US-PATENT-3,404,289	c 09	N71-23545 *	US-PATENT-3,425,486	c 05	N71-24147 *
US-PATENT-3,373,430	c 09	N71-22888 *	US-PATENT-3,404,348	c 32	N74-22096 *	US-PATENT-3,425,487	c 05	N71-19439 *
US-PATENT-3,373,431	c 07	N71-22750 *	US-PATENT-3,405,406	c 05	N71-23161 *	US-PATENT-3,425,885	c 15	N69-24322 *
US-PATENT-3,373,640	c 15	N71-22722 *	US-PATENT-3,405,887	c 31	N71-24315 *	US-PATENT-3,426,219	c 09	N69-24317 *
US-PATENT-3,373,914	c 15	N71-23050 *	US-PATENT-3,406,336	c 10	N71-24863 *	US-PATENT-3,426,230	c 15	N69-24319 *
US-PATENT-3,374,339	c 08	N71-22897 *	US-PATENT-3,406,742	c 33	N71-24276 *	US-PATENT-3,426,263	c 03	N71-19438 *
US-PATENT-3,374,366	c 09	N71-23015 *	US-PATENT-3,407,304	c 14	N71-23240 *	US-PATENT-3,426,272	c 14	N69-39785 *
US-PATENT-3,374,830	c 33	N71-22890 *	US-PATENT-3,408,816	c 28	N71-24736 *	US-PATENT-3,426,746	c 05	N71-26293 *
US-PATENT-3,375,451	c 10	N71-22986 *	US-PATENT-3,408,870	c 14	N71-23227 *	US-PATENT-3,426,791	c 15	N71-19569 *
US-PATENT-3,375,479	c 15	N71-23049 *	US-PATENT-3,409,247	c 33	N71-28903 *	US-PATENT-3,427,047	c 15	N69-27490 *
US-PATENT-3,375,712	c 35	N75-29382 *	US-PATENT-3,409,252	c 15	N71-23255 *	US-PATENT-3,427,089	c 23	N69-24332 *
US-PATENT-3,375,885	c 15	N73-32362 *	US-PATENT-3,409,554	c 26	N71-23292 *	US-PATENT-3,427,093	c 09	N71-19479 *



US-PATENT-3,427,097	c 11	N69-24321 *	#	US-PATENT-3,448,341	c 09	N71-12526 *	US-PATENT-3,471,858	c 07	N71-12391 *
US-PATENT-3,427,205	c 15	N69-24320 *	#	US-PATENT-3,448,346	c 15	N71-18701 *	US-PATENT-3,472,019	c 10	N71-26326 *
US-PATENT-3,427,435	c 17	N69-25147 *	#	US-PATENT-3,450,842	c 07	N69-39978 *	US-PATENT-3,472,059	c 14	N71-23755 *
US-PATENT-3,427,454	c 05	N71-19440 *	#	US-PATENT-3,450,878	c 14	N71-20430 *	US-PATENT-3,472,060	c 14	N71-26136 *
US-PATENT-3,427,525	c 03	N69-21330 *	#	US-PATENT-3,450,946	c 09	N69-39897 *	US-PATENT-3,472,069	c 15	N71-20441 *
US-PATENT-3,428,761	c 09	N69-24329 *	#	US-PATENT-3,452,103	c 06	N73-30101 *	US-PATENT-3,472,080	c 10	N71-26339 *
US-PATENT-3,428,812	c 14	N69-27485 *	#	US-PATENT-3,452,423	c 26	N71-16037 *	US-PATENT-3,472,086	c 15	N71-23809 *
US-PATENT-3,428,847	c 15	N69-24266 *	#	US-PATENT-3,452,872	c 14	N69-39896 *	US-PATENT-3,472,140	c 14	N71-26474 *
US-PATENT-3,428,910	c 09	N69-24330 *	#	US-PATENT-3,453,172	c 15	N69-39735 *	US-PATENT-3,472,202	c 17	N71-24911 *
US-PATENT-3,428,919	c 07	N69-24334 *	#	US-PATENT-3,453,462	c 03	N69-39983 *	US-PATENT-3,472,372	c 15	N71-20440 *
US-PATENT-3,428,923	c 07	N69-27462 *	#	US-PATENT-3,453,546	c 05	N71-12342 *	US-PATENT-3,472,470	c 02	N71-20570 *
US-PATENT-3,429,058	c 12	N69-39988 *	#	US-PATENT-3,453,878	c 09	N79-21083 *	US-PATENT-3,472,577	c 23	N71-24857 *
US-PATENT-3,429,177	c 06	N69-39733 *	#	US-PATENT-3,454,410	c 18	N69-39979 *	US-PATENT-3,472,625	c 06	N71-23527 *
US-PATENT-3,429,477	c 15	N69-27502 *	#	US-PATENT-3,454,766	c 35	N75-27329 *	US-PATENT-3,472,629	c 14	N71-20442 *
US-PATENT-3,429,756	c 76	N79-21910 *	#	US-PATENT-3,455,121	c 14	N71-20427 *	US-PATENT-3,472,698	c 03	N71-23449 *
US-PATENT-3,430,063	c 09	N69-27500 *	#	US-PATENT-3,455,171	c 23	N71-16098 *	US-PATENT-3,472,709	c 18	N71-26153 *
US-PATENT-3,430,115	c 09	N69-24318 *	#	US-PATENT-3,456,112	c 14	N69-39937 *	US-PATENT-3,472,742	c 17	N71-24830 *
US-PATENT-3,430,131	c 24	N71-20518 *	#	US-PATENT-3,456,193	c 08	N71-19763 *	US-PATENT-3,472,998	c 16	N71-20400 *
US-PATENT-3,430,182	c 14	N69-27431 *	#	US-PATENT-3,456,201	c 09	N69-39885 *	US-PATENT-3,473,050	c 09	N71-20447 *
US-PATENT-3,430,227	c 08	N71-19687 *	#	US-PATENT-3,458,104	c 15	N71-20393 *	US-PATENT-3,473,116	c 25	N71-20563 *
US-PATENT-3,430,237	c 07	N69-39974 *	#	US-PATENT-3,458,313	c 14	N71-17574 *	US-PATENT-3,473,165	c 05	N71-26333 *
US-PATENT-3,430,237	c 08	N71-19687 *	#	US-PATENT-3,458,651	c 09	N71-19449 *	US-PATENT-3,473,216	c 15	N71-20443 *
US-PATENT-3,430,460	c 15	N69-27505 *	#	US-PATENT-3,458,702	c 14	N71-18699 *	US-PATENT-3,473,379	c 12	N71-26387 *
US-PATENT-3,430,902	c 14	N69-27486 *	#	US-PATENT-3,458,726	c 10	N69-39888 *	US-PATENT-3,473,758	c 03	N71-20273 *
US-PATENT-3,430,909	c 11	N69-27466 *	#	US-PATENT-3,458,833	c 10	N71-19418 *	US-PATENT-3,474,192	c 07	N71-26102 *
US-PATENT-3,430,937	c 15	N69-27483 *	#	US-PATENT-3,458,851	c 09	N69-39734 *	US-PATENT-3,474,220	c 15	N71-19486 *
US-PATENT-3,430,942	c 15	N69-27504 *	#	US-PATENT-3,459,391	c 03	N71-11058 *	US-PATENT-3,474,328	c 14	N71-26266 *
US-PATENT-3,431,149	c 14	N69-27459 *	#	US-PATENT-3,460,378	c 14	N71-24233 *	US-PATENT-3,474,357	c 09	N71-20445 *
US-PATENT-3,431,397	c 15	N69-27871 *	#	US-PATENT-3,460,379	c 15	N71-24834 *	US-PATENT-3,474,413	c 10	N71-26103 *
US-PATENT-3,431,460	c 09	N71-23189 *	#	US-PATENT-3,460,381	c 14	N71-23725 *	US-PATENT-3,474,441	c 08	N71-19544 *
US-PATENT-3,431,559	c 09	N69-24333 *	#	US-PATENT-3,460,397	c 15	N71-24045 *	US-PATENT-3,475,384	c 06	N73-30103 *
US-PATENT-3,432,730	c 09	N69-27422 *	#	US-PATENT-3,460,759	c 28	N71-23968 *	US-PATENT-3,475,442	c 26	N75-27125 *
US-PATENT-3,433,015	c 28	N71-20330 *	#	US-PATENT-3,460,781	c 14	N71-23698 *	US-PATENT-3,475,675	c 33	N78-17295 *
US-PATENT-3,433,079	c 14	N69-27503 *	#	US-PATENT-3,460,995	c 03	N71-20407 *	US-PATENT-3,478,514	c 37	N77-22479 *
US-PATENT-3,433,662	c 14	N71-20461 *	#	US-PATENT-3,461,290	c 14	N71-26475 *	US-PATENT-3,480,789	c 10	N71-26626 *
US-PATENT-3,433,818	c 06	N71-23230 *	#	US-PATENT-3,461,393	c 10	N71-26415 *	US-PATENT-3,481,638	c 15	N71-26312 *
US-PATENT-3,433,909	c 10	N71-23663 *	#	US-PATENT-3,461,437	c 10	N71-26434 *	US-PATENT-3,481,802	c 31	N79-21226 *
US-PATENT-3,433,953	c 14	N69-27484 *	#	US-PATENT-3,461,700	c 15	N71-26346 *	US-PATENT-3,481,887	c 18	N71-26155 *
US-PATENT-3,433,960	c 16	N69-27491 *	#	US-PATENT-3,461,721	c 12	N71-20436 *	US-PATENT-3,482,179	c 10	N71-26331 *
US-PATENT-3,433,961	c 14	N69-27432 *	#	US-PATENT-3,461,855	c 05	N71-20268 *	US-PATENT-3,483,535	c 10	N71-26418 *
US-PATENT-3,434,033	c 09	N69-39984 *	#	US-PATENT-3,463,001	c 14	N71-20429 *	US-PATENT-3,484,712	c 10	N71-26374 *
US-PATENT-3,434,037	c 10	N71-26414 *	#	US-PATENT-3,463,563	c 15	N71-23812 *	US-PATENT-3,485,290	c 20	N79-21123 *
US-PATENT-3,434,050	c 09	N71-20569 *	#	US-PATENT-3,463,673	c 03	N71-20491 *	US-PATENT-3,486,123	c 16	N71-24831 *
US-PATENT-3,434,064	c 09	N69-39986 *	#	US-PATENT-3,463,679	c 17	N71-24142 *	US-PATENT-3,487,216	c 14	N71-24809 *
US-PATENT-3,434,855	c 18	N71-24184 *	#	US-PATENT-3,463,761	c 06	N73-30099 *	US-PATENT-3,487,281	c 15	N71-26695 *
US-PATENT-3,434,885	c 03	N71-20492 *	#	US-PATENT-3,463,762	c 06	N73-30100 *	US-PATENT-3,487,288	c 10	N71-25139 *
US-PATENT-3,435,246	c 14	N69-24331 *	#	US-PATENT-3,463,939	c 10	N71-19471 *	US-PATENT-3,487,680	c 15	N71-17696 *
US-PATENT-3,437,394	c 14	N69-27461 *	#	US-PATENT-3,464,012	c 14	N71-26244 *	US-PATENT-3,487,765	c 54	N78-17679 *
US-PATENT-3,437,527	c 03	N69-24267 *	#	US-PATENT-3,464,016	c 10	N71-19472 *	US-PATENT-3,488,103	c 14	N71-15604 *
US-PATENT-3,437,560	c 04	N69-27487 *	#	US-PATENT-3,464,018	c 09	N71-23525 *	US-PATENT-3,488,123	c 14	N71-17627 *
US-PATENT-3,437,818	c 03	N71-23354 *	#	US-PATENT-3,464,049	c 32	N71-15974 *	US-PATENT-3,488,414	c 15	N71-17803 *
US-PATENT-3,437,832	c 09	N69-27463 *	#	US-PATENT-3,464,051	c 15	N71-17685 *	US-PATENT-3,488,461	c 09	N71-12518 *
US-PATENT-3,437,874	c 08	N71-20571 *	#	US-PATENT-3,465,482	c 31	N71-16080 *	US-PATENT-3,488,504	c 21	N71-15642 *
US-PATENT-3,437,903	c 03	N69-25146 *	#	US-PATENT-3,465,567	c 15	N71-18579 *	US-PATENT-3,488,771	c 54	N78-17678 *
US-PATENT-3,437,919	c 14	N69-27423 *	#	US-PATENT-3,465,569	c 14	N71-17659 *	US-PATENT-3,490,074	c 54	N78-17677 *
US-PATENT-3,437,935	c 09	N69-24324 *	#	US-PATENT-3,465,584	c 14	N71-23726 *	US-PATENT-3,490,130	c 05	N71-12345 *
US-PATENT-3,437,959	c 07	N69-24323 *	#	US-PATENT-3,465,638	c 11	N71-18578 *	US-PATENT-3,490,205	c 14	N71-17588 *
US-PATENT-3,438,044	c 07	N69-27460 *	#	US-PATENT-3,465,986	c 31	N71-20396 *	US-PATENT-3,490,235	c 28	N71-14044 *
US-PATENT-3,438,263	c 14	N71-20435 *	#	US-PATENT-3,466,052	c 15	N71-19570 *	US-PATENT-3,490,238	c 15	N70-22192 *
US-PATENT-3,439,886	c 31	N69-27499 *	#	US-PATENT-3,466,085	c 05	N71-12343 *	US-PATENT-3,490,405	c 15	N71-15597 *
US-PATENT-3,440,419	c 14	N73-28491 *	#	US-PATENT-3,466,198	c 03	N71-19545 *	US-PATENT-3,490,440	c 05	N71-12346 *
US-PATENT-3,442,674	c 25	N82-29370 *	#	US-PATENT-3,466,243	c 15	N71-23810 *	US-PATENT-3,490,718	c 33	N71-14035 *
US-PATENT-3,443,128	c 03	N69-39890 *	#	US-PATENT-3,466,418	c 15	N71-18613 *	US-PATENT-3,490,719	c 21	N71-14159 *
US-PATENT-3,443,208	c 14	N71-20428 *	#	US-PATENT-3,466,424	c 15	N71-20395 *	US-PATENT-3,490,721	c 02	N71-11039 *
US-PATENT-3,443,384	c 28	N71-24321 *	#	US-PATENT-3,466,459	c 09	N71-26000 *	US-PATENT-3,490,939	c 33	N71-14032 *
US-PATENT-3,443,390	c 11	N71-24964 *	#	US-PATENT-3,466,484	c 14	N71-18482 *	US-PATENT-3,490,965	c 09	N71-12513 *
US-PATENT-3,443,412	c 15	N71-23811 *	#	US-PATENT-3,466,560	c 09	N71-19466 *	US-PATENT-3,491,202	c 07	N71-12392 *
US-PATENT-3,443,416	c 06	N69-39936 *	#	US-PATENT-3,466,570	c 10	N71-25950 *	US-PATENT-3,491,255	c 09	N71-12514 *
US-PATENT-3,443,472	c 15	N71-23254 *	#	US-PATENT-3,467,837	c 05	N71-23317 *	US-PATENT-3,491,335	c 14	N71-15620 *
US-PATENT-3,443,583	c 14	N71-18625 *	#	US-PATENT-3,468,303	c 09	N71-26002 *	US-PATENT-3,491,857	c 14	N71-17626 *
US-PATENT-3,443,584	c 32	N71-16106 *	#	US-PATENT-3,468,548	c 15	N71-26294 *	US-PATENT-3,492,176	c 27	N71-14090 *
US-PATENT-3,443,732	c 15	N71-15607 *	#	US-PATENT-3,468,609	c 16	N71-24170 *	US-PATENT-3,492,672	c 05	N71-12344 *
US-PATENT-3,443,773	c 31	N71-23912 *	#	US-PATENT-3,468,727	c 14	N71-25892 *	US-PATENT-3,492,739	c 15	N71-15571 *
US-PATENT-3,443,779	c 01	N69-39981 *	#	US-PATENT-3,468,765	c 17	N71-25903 *	US-PATENT-3,492,858	c 35	N78-17358 *
US-PATENT-3,444,051	c 05	N71-11207 *	#	US-PATENT-3,469,068	c 15	N71-23815 *	US-PATENT-3,492,862	c 14	N71-15600 *
US-PATENT-3,444,127	c 06	N71-11237 *	#	US-PATENT-3,469,069	c 15	N71-23798 *	US-PATENT-3,492,947	c 28	N71-14058 *
US-PATENT-3,444,375	c 14	N71-15599 *	#	US-PATENT-3,469,087	c 16	N71-25914 *	US-PATENT-3,493,003	c 15	N71-15609 *
US-PATENT-3,444,380	c 07	N69-39980 *	#	US-PATENT-3,469,143	c 33	N75-29318 *	US-PATENT-3,493,004	c 12	N71-17579 *
US-PATENT-3,446,075	c 14	N73-30394 *	#	US-PATENT-3,469,289	c 15	N71-25975 *	US-PATENT-3,493,012	c 15	N71-15608 *
US-PATENT-3,446,387	c 15	N69-39935 *	#	US-PATENT-3,469,375	c 14	N71-18483 *	US-PATENT-3,493,027	c 31	N71-18611 *
US-PATENT-3,446,558	c 16	N71-24074 *	#	US-PATENT-3,469,436	c 15	N71-23817 *	US-PATENT-3,493,153	c 05	N71-12351 *
US-PATENT-3,446,642	c 18	N69-39895 *	#	US-PATENT-3,469,437	c 14	N71-24234 *	US-PATENT-3,493,155	c 26	N71-14354 *
US-PATENT-3,446,676	c 03	N71-11050 *	#	US-PATENT-3,469,734	c 11	N71-17600 *	US-PATENT-3,493,194	c 21	N71-14132 *
US-PATENT-3,446,960	c 14	N69-39982 *	#	US-PATENT-3,470,043	c 15	N71-24047 *	US-PATENT-3,493,197	c 02	N71-11043 *
US-PATENT-3,446,992	c 09	N69-39987 *	#	US-PATENT-3,470,304	c 14	N71-23267 *	US-PATENT-3,493,291	c 14	N71-15622 *
US-PATENT-3,446,997	c 03	N69-39988 *	#	US-PATENT-3,470,313	c 07	N71-26579 *	US-PATENT-3,493,294	c 14	N71-15605 *
US-PATENT-3,446,998	c 09	N69-39929 *	#	US-PATENT-3,470,318	c 07	N71-24612 *	US-PATENT-3,493,401	c 18	N71-14014 *
US-PATENT-3,447,003	c 09	N71-20446 *	#	US-PATENT-3,470,342	c 09	N71-19610 *	US-PATENT-3,493,415	c 15	N71-15610 *
US-PATENT-3,447,015	c 06	N69-39889 *	#	US-PATENT-3,470,443	c 03	N71-23239 *	US-PATENT-3,493,437	c 03	N71-11056 *
US-PATENT-3,447,071	c 25	N69-39884 *	#	US-PATENT-3,470,466	c 09	N71-23188 *	US-PATENT-3,493,522	c 06	N71-11243 *
US-PATENT-3,447,154	c 21	N71-11766 *	#	US-PATENT-3,470,466	c 14	N71-23699 *	US-PATENT-3,493,524	c 06	N71-11242 *
US-PATENT-3,447,155	c 09	N71-18598 *	#	US-PATENT-3,470,475	c 10	N71-19467 *	US-PATENT-3,493,665	c 14	N71-15621 *
US-PATENT-3,447,233	c 15	N69-39786 *	#	US-PATENT-3,470,489	c 09	N71-23598 *	US-PATENT-3,493,677	c 07	N71-11300 *
US-PATENT-3,447,774	c 15	N71-19485 *	#	US-PATENT-3,470,495	c 10	N71-23669 *	US-PATENT-3,		



US-PATENT-3,493,805	c 09	N71-12521 *	US-PATENT-3,520,190	c 10	N71-13537 *	US-PATENT-3,535,543	c 09	N71-13486 *
US-PATENT-3,493,901	c 09	N71-12517 *	US-PATENT-3,520,238	c 14	N71-18465 *	US-PATENT-3,535,547	c 09	N71-12520 *
US-PATENT-3,493,929	c 08	N71-12505 *	US-PATENT-3,520,317	c 12	N71-17578 *	US-PATENT-3,535,554	c 09	N71-12516 *
US-PATENT-3,493,942	c 08	N71-12504 *	US-PATENT-3,520,496	c 31	N71-16345 *	US-PATENT-3,535,560	c 08	N71-12494 *
US-PATENT-3,495,260	c 21	N71-13958 *	US-PATENT-3,520,503	c 31	N71-16085 *	US-PATENT-3,535,562	c 33	N71-27862 *
US-PATENT-3,495,262	c 07	N71-12396 *	US-PATENT-3,520,617	c 23	N71-16101 *	US-PATENT-3,535,570	c 15	N71-24696 *
US-PATENT-3,498,840	c 44	N82-24642 *	US-PATENT-3,520,660	c 23	N71-16355 *	US-PATENT-3,535,586	c 25	N71-15562 *
US-PATENT-3,498,841	c 44	N82-24641 *	US-PATENT-3,521,054	c 06	N71-13461 *	US-PATENT-3,535,602	c 09	N71-13522 *
US-PATENT-3,500,020	c 01	N71-13411 *	US-PATENT-3,521,143	c 08	N71-18752 *	US-PATENT-3,535,642	c 08	N71-12503 *
US-PATENT-3,500,525	c 15	N71-17688 *	US-PATENT-3,521,290	c 31	N71-16102 *	US-PATENT-3,535,644	c 09	N71-12519 *
US-PATENT-3,500,677	c 14	N71-17584 *	US-PATENT-3,523,228	c 10	N71-24861 *	US-PATENT-3,535,657	c 07	N71-12390 *
US-PATENT-3,500,686	c 12	N71-17569 *	US-PATENT-3,526,030	c 15	N71-17686 *	US-PATENT-3,535,658	c 08	N71-12500 *
US-PATENT-3,500,688	c 14	N71-17587 *	US-PATENT-3,526,134	c 33	N71-16356 *	US-PATENT-3,535,683	c 31	N71-15566 *
US-PATENT-3,500,747	c 09	N71-18599 *	US-PATENT-3,526,139	c 31	N71-16221 *	US-PATENT-3,535,696	c 08	N71-12506 *
US-PATENT-3,500,827	c 05	N71-11203 *	US-PATENT-3,526,140	c 27	N71-16223 *	US-PATENT-3,535,702	c 09	N71-12515 *
US-PATENT-3,501,112	c 15	N71-17693 *	US-PATENT-3,526,359	c 33	N71-16357 *	US-PATENT-3,536,103	c 15	N71-19213 *
US-PATENT-3,501,632	c 27	N71-16348 *	US-PATENT-3,526,365	c 28	N71-16224 *	US-PATENT-3,537,096	c 08	N71-12507 *
US-PATENT-3,501,641	c 20	N71-16340 *	US-PATENT-3,526,372	c 31	N71-16346 *	US-PATENT-3,537,103	c 08	N71-24650 *
US-PATENT-3,501,648	c 10	N71-24799 *	US-PATENT-3,526,382	c 15	N71-17649 *	US-PATENT-3,537,107	c 05	N71-24730 *
US-PATENT-3,501,649	c 10	N71-18723 *	US-PATENT-3,526,460	c 23	N71-16365 *	US-PATENT-3,537,305	c 26	N71-25490 *
US-PATENT-3,501,664	c 14	N71-17585 *	US-PATENT-3,526,473	c 18	N71-15545 *	US-PATENT-3,537,515	c 09	N71-24807 *
US-PATENT-3,501,683	c 15	N71-17694 *	US-PATENT-3,526,580	c 18	N71-16210 *	US-PATENT-3,537,668	c 05	N71-24728 *
US-PATENT-3,501,684	c 09	N71-26092 *	US-PATENT-3,526,611	c 06	N71-11236 *	US-PATENT-3,537,672	c 15	N71-24694 *
US-PATENT-3,501,701	c 08	N71-18692 *	US-PATENT-3,526,645	c 09	N71-13531 *	US-PATENT-3,538,053	c 27	N71-17214 *
US-PATENT-3,501,704	c 07	N71-11282 *	US-PATENT-3,526,697	c 09	N71-13521 *	US-PATENT-3,539,905	c 09	N71-24800 *
US-PATENT-3,501,712	c 09	N71-19516 *	US-PATENT-3,527,724	c 27	N78-33228 *	US-PATENT-3,540,045	c 09	N71-24595 *
US-PATENT-3,501,743	c 09	N71-19842 *	US-PATENT-3,529,480	c 15	N71-17692 *	US-PATENT-3,540,048	c 31	N71-24813 *
US-PATENT-3,501,750	c 08	N71-19288 *	US-PATENT-3,529,928	c 17	N71-16393 *	US-PATENT-3,540,050	c 09	N71-24804 *
US-PATENT-3,501,752	c 08	N71-18595 *	US-PATENT-3,530,336	c 09	N71-13518 *	US-PATENT-3,540,054	c 07	N71-24625 *
US-PATENT-3,501,764	c 10	N71-18722 *	US-PATENT-3,531,964	c 15	N71-18616 *	US-PATENT-3,540,056	c 07	N71-24614 *
US-PATENT-3,502,051	c 15	N71-17647 *	US-PATENT-3,531,978	c 14	N71-18481 *	US-PATENT-3,540,250	c 15	N71-24865 *
US-PATENT-3,502,074	c 05	N71-11190 *	US-PATENT-3,531,982	c 15	N71-18132 *	US-PATENT-3,540,449	c 15	N71-24835 *
US-PATENT-3,502,141	c 33	N71-16277 *	US-PATENT-3,531,989	c 33	N71-15641 *	US-PATENT-3,540,615	c 33	N71-25351 *
US-PATENT-3,503,251	c 32	N71-16428 *	US-PATENT-3,532,118	c 12	N71-18615 *	US-PATENT-3,540,676	c 15	N71-24600 *
US-PATENT-3,504,258	c 10	N71-18724 *	US-PATENT-3,532,128	c 15	N71-18580 *	US-PATENT-3,540,790	c 16	N71-26154 *
US-PATENT-3,504,983	c 23	N71-16341 *	US-PATENT-3,532,427	c 21	N71-19212 *	US-PATENT-3,540,802	c 23	N71-24868 *
US-PATENT-3,506,496	c 44	N82-24645 *	US-PATENT-3,532,428	c 30	N71-15990 *	US-PATENT-3,540,942	c 15	N71-24875 *
US-PATENT-3,507,034	c 15	N71-17650 *	US-PATENT-3,532,538	c 18	N71-16046 *	US-PATENT-3,540,989	c 24	N71-25555 *
US-PATENT-3,507,114	c 27	N71-16392 *	US-PATENT-3,532,551	c 03	N71-11049 *	US-PATENT-3,541,250	c 07	N71-24742 *
US-PATENT-3,507,146	c 05	N71-11202 *	US-PATENT-3,532,568	c 17	N71-16044 *	US-PATENT-3,541,312	c 08	N71-24891 *
US-PATENT-3,507,150	c 20	N71-16281 *	US-PATENT-3,532,673	c 06	N71-11238 *	US-PATENT-3,541,314	c 07	N71-24741 *
US-PATENT-3,507,425	c 15	N71-17628 *	US-PATENT-3,532,807	c 07	N71-19433 *	US-PATENT-3,541,346	c 09	N71-24803 *
US-PATENT-3,507,436	c 08	N71-19420 *	US-PATENT-3,532,819	c 10	N71-19468 *	US-PATENT-3,541,361	c 09	N71-24904 *
US-PATENT-3,507,704	c 03	N71-11052 *	US-PATENT-3,532,866	c 08	N71-18602 *	US-PATENT-3,541,422	c 03	N71-24719 *
US-PATENT-3,507,706	c 03	N71-18698 *	US-PATENT-3,532,880	c 24	N71-16095 *	US-PATENT-3,541,428	c 09	N71-24893 *
US-PATENT-3,508,036	c 08	N71-18693 *	US-PATENT-3,532,894	c 23	N71-16100 *	US-PATENT-3,541,439	c 09	N71-24843 *
US-PATENT-3,508,039	c 08	N71-19437 *	US-PATENT-3,532,948	c 10	N71-18772 *	US-PATENT-3,541,450	c 07	N71-24840 *
US-PATENT-3,508,053	c 09	N71-18830 *	US-PATENT-3,532,960	c 03	N71-12255 *	US-PATENT-3,541,459	c 10	N71-24844 *
US-PATENT-3,508,070	c 03	N71-11057 *	US-PATENT-3,532,973	c 15	N71-17822 *	US-PATENT-3,541,479	c 09	N71-24841 *
US-PATENT-3,508,152	c 07	N71-11266 *	US-PATENT-3,532,975	c 10	N71-19421 *	US-PATENT-3,541,486	c 16	N71-28554 *
US-PATENT-3,508,156	c 07	N71-11267 *	US-PATENT-3,532,979	c 10	N71-12554 *	US-PATENT-3,541,679	c 03	N71-24681 *
US-PATENT-3,508,347	c 05	N71-24606 *	US-PATENT-3,532,985	c 07	N71-19773 *	US-PATENT-3,541,825	c 15	N71-24836 *
US-PATENT-3,508,402	c 33	N71-16104 *	US-PATENT-3,533,001	c 07	N71-24583 *	US-PATENT-3,541,875	c 15	N71-24984 *
US-PATENT-3,508,541	c 05	N71-11193 *	US-PATENT-3,533,006	c 10	N72-28241 *	US-PATENT-3,543,050	c 10	N71-24862 *
US-PATENT-3,508,578	c 32	N71-16103 *	US-PATENT-3,533,074	c 08	N71-12502 *	US-PATENT-3,543,159	c 09	N71-24717 *
US-PATENT-3,508,723	c 31	N71-16222 *	US-PATENT-3,533,093	c 10	N71-19417 *	US-PATENT-3,543,839	c 34	N78-17337 *
US-PATENT-3,508,724	c 02	N71-11037 *	US-PATENT-3,533,098	c 08	N71-18594 *	US-PATENT-3,545,208	c 28	N71-25213 *
US-PATENT-3,508,739	c 15	N71-17648 *	US-PATENT-3,534,365	c 07	N71-19854 *	US-PATENT-3,545,226	c 23	N71-24725 *
US-PATENT-3,508,779	c 15	N71-24897 *	US-PATENT-3,534,367	c 02	N71-19287 *	US-PATENT-3,545,252	c 11	N71-24985 *
US-PATENT-3,508,940	c 18	N71-16124 *	US-PATENT-3,534,375	c 07	N71-11285 *	US-PATENT-3,545,262	c 38	N78-28563 *
US-PATENT-3,508,955	c 18	N71-16105 *	US-PATENT-3,534,376	c 07	N71-26101 *	US-PATENT-3,545,275	c 09	N71-24597 *
US-PATENT-3,508,999	c 15	N71-17687 *	US-PATENT-3,534,406	c 05	N71-11195 *	US-PATENT-3,545,725	c 15	N71-24599 *
US-PATENT-3,509,034	c 14	N71-17575 *	US-PATENT-3,534,407	c 05	N71-11194 *	US-PATENT-3,545,792	c 15	N71-24903 *
US-PATENT-3,509,386	c 03	N71-11055 *	US-PATENT-3,534,479	c 14	N71-17657 *	US-PATENT-3,546,386	c 07	N71-24621 *
US-PATENT-3,509,419	c 24	N71-16213 *	US-PATENT-3,534,480	c 14	N71-17658 *	US-PATENT-3,546,471	c 14	N71-24864 *
US-PATENT-3,509,469	c 23	N71-16099 *	US-PATENT-3,534,485	c 11	N71-18773 *	US-PATENT-3,546,552	c 15	N71-24895 *
US-PATENT-3,509,475	c 09	N71-24596 *	US-PATENT-3,534,555	c 12	N71-17631 *	US-PATENT-3,546,553	c 09	N71-24805 *
US-PATENT-3,509,491	c 09	N71-18721 *	US-PATENT-3,534,584	c 10	N71-13545 *	US-PATENT-3,546,684	c 07	N71-24624 *
US-PATENT-3,509,551	c 08	N71-18694 *	US-PATENT-3,534,585	c 14	N71-17701 *	US-PATENT-3,546,694	c 10	N71-24798 *
US-PATENT-3,509,558	c 08	N71-19435 *	US-PATENT-3,534,592	c 14	N71-17656 *	US-PATENT-3,546,705	c 09	N71-24842 *
US-PATENT-3,509,570	c 09	N71-18720 *	US-PATENT-3,534,596	c 14	N71-17586 *	US-PATENT-3,546,917	c 15	N71-24679 *
US-PATENT-3,509,578	c 07	N71-19493 *	US-PATENT-3,534,597	c 31	N71-15643 *	US-PATENT-3,546,920	c 06	N71-24607 *
US-PATENT-3,511,680	c 31	N79-21227 *	US-PATENT-3,534,650	c 15	N71-17653 *	US-PATENT-3,546,931	c 32	N71-25360 *
US-PATENT-3,512,009	c 08	N71-18751 *	US-PATENT-3,534,686	c 31	N71-15687 *	US-PATENT-3,547,105	c 09	N71-24618 *
US-PATENT-3,514,785	c 54	N78-18761 *	US-PATENT-3,534,727	c 05	N71-11189 *	US-PATENT-3,547,376	c 31	N71-25434 *
US-PATENT-3,516,091	c 05	N71-24623 *	US-PATENT-3,534,765	c 12	N71-17661 *	US-PATENT-3,547,540	c 16	N71-24828 *
US-PATENT-3,516,179	c 11	N71-19494 *	US-PATENT-3,534,826	c 31	N71-15689 *	US-PATENT-3,547,801	c 03	N71-24718 *
US-PATENT-3,516,185	c 12	N71-18603 *	US-PATENT-3,534,836	c 15	N71-17805 *	US-PATENT-3,548,107	c 07	N71-24622 *
US-PATENT-3,516,284	c 12	N71-17573 *	US-PATENT-3,534,909	c 15	N71-17654 *	US-PATENT-3,548,633	c 18	N71-24934 *
US-PATENT-3,516,404	c 05	N71-17599 *	US-PATENT-3,534,924	c 31	N71-15674 *	US-PATENT-3,548,636	c 15	N71-24910 *
US-PATENT-3,516,711	c 05	N71-12341 *	US-PATENT-3,534,925	c 31	N71-15676 *	US-PATENT-3,548,812	c 05	N71-24729 *
US-PATENT-3,516,879	c 23	N71-16212 *	US-PATENT-3,534,926	c 15	N71-19214 *	US-PATENT-3,548,930	c 33	N71-25353 *
US-PATENT-3,516,964	c 06	N71-11240 *	US-PATENT-3,534,930	c 02	N71-13422 *	US-PATENT-3,549,435	c 14	N72-28438 *
US-PATENT-3,516,970	c 06	N71-11239 *	US-PATENT-3,535,012	c 16	N71-15567 *	US-PATENT-3,549,564	c 06	N71-24739 *
US-PATENT-3,516,971	c 06	N71-24740 *	US-PATENT-3,535,013	c 16	N71-15551 *	US-PATENT-3,549,799	c 09	N71-25866 *
US-PATENT-3,517,109	c 07	N71-19436 *	US-PATENT-3,535,014	c 16	N71-15565 *	US-PATENT-3,549,882	c 15	N71-24896 *
US-PATENT-3,517,162	c 33	N71-16278 *	US-PATENT-3,535,024	c 14	N71-17662 *	US-PATENT-3,549,955	c 09	N71-24892 *
US-PATENT-3,517,171	c 08	N71-24633 *	US-PATENT-3,535,041	c 14	N71-17655 *	US-PATENT-3,550,023	c 09	N71-24806 *
US-PATENT-3,517,221	c 10	N71-19547 *	US-PATENT-3,535,110	c 17	N71-15468 *	US-PATENT-3,550,034	c 16	N71-24832 *
US-PATENT-3,517,268	c 10	N71-19469 *	US-PATENT-3,535,130	c 18	N71-15469 *	US-PATENT-3,550,129	c 21	N71-24948 *
US-PATENT-3,517,302	c 25	N71-16073 *	US-PATENT-3,535,165	c 33	N71-15568 *	US-PATENT-3,550,585	c 05	N71-24738 *
US-PATENT-3,517,318	c 08	N71-19432 *	US-PATENT-3,535,179	c 15	N71-17651 *	US-PATENT-3,551,266	c 33	N71-24858 *
US-PATENT-3,517,328	c 16	N71-18614 *	US-PATENT-3,535,352	c 18	N71-15688 *	US-PATENT-3,551,816	c 07	N71-24613 *
US-PATENT-3,518,232	c 06	N71-11235 *	US-PATENT-3,535,446	c 09	N71-12539 *	US-PATENT-3,551,831	c 33	N75-27251 *
US-PATENT-3,519,483	c 44	N82-24644 *	US-PATENT-3,535,451	c 07	N71-11281 *	US-PATENT-3,552,124	c 28	N71-26642 *
US-PATENT-3,519,484	c 44	N82-24643 *	US-PATENT-3,535,497	c 08	N71-24890 *	US-PATENT-3,552,125	c 28	N71-26173 *

US-PATENT-3,553,002	c 18	N71-26100 *	US-PATENT-3,571,800	c 10	N71-27272 *	US-PATENT-3,592,628	c 15	N72-11387 *
US-PATENT-3,553,586	c 07	N71-26292 *	US-PATENT-3,571,801	c 08	N71-27255 *	US-PATENT-3,592,768	c 15	N72-11389 *
US-PATENT-3,553,704	c 10	N71-26142 *	US-PATENT-3,572,089	c 14	N71-27185 *	US-PATENT-3,593,001	c 15	N72-11392 *
US-PATENT-3,553,904	c 15	N71-26134 *	US-PATENT-3,572,104	c 28	N71-27094 *	US-PATENT-3,593,024	c 24	N72-11595 *
US-PATENT-3,554,466	c 31	N71-26537 *	US-PATENT-3,572,112	c 15	N71-27006 *	US-PATENT-3,593,132	c 09	N72-11225 *
US-PATENT-3,554,647	c 23	N71-26206 *	US-PATENT-3,572,610	c 28	N71-27095 *	US-PATENT-3,593,138	c 07	N72-11149 *
US-PATENT-3,554,806	c 03	N71-26084 *	US-PATENT-3,572,935	c 14	N71-27215 *	US-PATENT-3,593,175	c 10	N72-11256 *
US-PATENT-3,555,192	c 07	N71-26181 *	US-PATENT-3,573,078	c 27	N82-29451 *	US-PATENT-3,593,180	c 07	N72-11150 *
US-PATENT-3,555,361	c 10	N71-26531 *	US-PATENT-3,573,470	c 74	N78-33913 *	US-PATENT-3,593,194	c 16	N72-12440 *
US-PATENT-3,555,361	c 10	N71-26531 *	US-PATENT-3,573,504	c 33	N78-17294 *	US-PATENT-3,594,790	c 07	N72-12080 *
US-PATENT-3,555,455	c 23	N71-26722 *	US-PATENT-3,573,583	c 09	N71-28886 *	US-PATENT-3,594,803	c 09	N72-12136 *
US-PATENT-3,555,483	c 35	N77-21393 *	US-PATENT-3,573,797	c 08	N71-27057 *	US-PATENT-3,596,465	c 28	N72-11708 *
US-PATENT-3,555,867	c 15	N71-26148 *	US-PATENT-3,573,977	c 15	N71-28582 *	US-PATENT-3,596,510	c 14	N72-11363 *
US-PATENT-3,555,898	c 12	N71-26546 *	US-PATENT-3,573,986	c 03	N71-28579 *	US-PATENT-3,596,554	c 15	N72-11385 *
US-PATENT-3,556,048	c 09	N71-26701 *	US-PATENT-3,573,986	c 18	N71-29040 *	US-PATENT-3,596,863	c 15	N72-11386 *
US-PATENT-3,556,634	c 07	N71-26291 *	US-PATENT-3,574,057	c 22	N71-28759 *	US-PATENT-3,597,281	c 03	N72-11062 *
US-PATENT-3,557,027	c 06	N71-25929 *	US-PATENT-3,574,084	c 14	N71-28933 *	US-PATENT-3,598,921	c 08	N72-11171 *
US-PATENT-3,557,534	c 15	N71-26185 *	US-PATENT-3,574,277	c 15	N71-28467 *	US-PATENT-3,599,216	c 07	N72-11148 *
US-PATENT-3,559,031	c 10	N71-26085 *	US-PATENT-3,574,286	c 11	N71-27036 *	US-PATENT-3,599,335	c 08	N72-11172 *
US-PATENT-3,559,096	c 10	N71-25882 *	US-PATENT-3,574,438	c 07	N71-29065 *	US-PATENT-3,599,443	c 05	N72-11084 *
US-PATENT-3,559,460	c 14	N71-26672 *	US-PATENT-3,574,448	c 23	N71-29123 *	US-PATENT-3,599,489	c 14	N72-11365 *
US-PATENT-3,559,937	c 14	N71-26627 *	US-PATENT-3,574,462	c 14	N71-29041 *	US-PATENT-3,600,046	c 15	N72-11388 *
US-PATENT-3,560,081	c 19	N71-26674 *	US-PATENT-3,574,467	c 23	N71-29125 *	US-PATENT-3,600,599	c 33	N78-17296 *
US-PATENT-3,560,161	c 06	N71-26754 *	US-PATENT-3,574,470	c 14	N71-28993 *	US-PATENT-3,602,920	c 11	N72-17183 *
US-PATENT-3,561,828	c 15	N71-26189 *	US-PATENT-3,574,770	c 06	N71-27254 *	US-PATENT-3,602,923	c 05	N72-22093 *
US-PATENT-3,562,575	c 09	N71-26182 *	US-PATENT-3,575,336	c 15	N71-27214 *	US-PATENT-3,602,979	c 15	N72-22492 *
US-PATENT-3,562,631	c 14	N71-26137 *	US-PATENT-3,575,585	c 14	N71-27058 *	US-PATENT-3,602,984	c 26	N72-17820 *
US-PATENT-3,562,857	c 15	N71-26721 *	US-PATENT-3,575,597	c 14	N71-27090 *	US-PATENT-3,603,092	c 28	N72-17843 *
US-PATENT-3,562,881	c 09	N71-26678 *	US-PATENT-3,575,602	c 16	N71-27183 *	US-PATENT-3,603,093	c 28	N72-18766 *
US-PATENT-3,562,919	c 15	N71-26145 *	US-PATENT-3,575,638	c 09	N71-26133 *	US-PATENT-3,603,260	c 33	N72-17947 *
US-PATENT-3,563,135	c 15	N71-27147 *	US-PATENT-3,575,641	c 10	N71-26334 *	US-PATENT-3,603,285	c 25	N75-29192 *
US-PATENT-3,563,198	c 18	N71-26285 *	US-PATENT-3,576,107	c 28	N71-26781 *	US-PATENT-3,603,382	c 33	N72-17948 *
US-PATENT-3,563,232	c 05	N71-27234 *	US-PATENT-3,576,127	c 14	N71-26161 *	US-PATENT-3,603,433	c 15	N72-17450 *
US-PATENT-3,563,307	c 15	N71-26611 *	US-PATENT-3,576,135	c 15	N71-26635 *	US-PATENT-3,603,532	c 30	N72-17873 *
US-PATENT-3,563,668	c 14	N71-26788 *	US-PATENT-3,576,301	c 02	N71-26110 *	US-PATENT-3,603,683	c 14	N72-17326 *
US-PATENT-3,563,727	c 15	N71-27184 *	US-PATENT-3,576,656	c 18	N71-26772 *	US-PATENT-3,603,686	c 16	N72-13437 *
US-PATENT-3,563,918	c 06	N71-27363 *	US-PATENT-3,576,669	c 15	N71-29032 *	US-PATENT-3,603,690	c 14	N72-17323 *
US-PATENT-3,564,234	c 09	N71-26787 *	US-PATENT-3,576,723	c 09	N71-28691 *	US-PATENT-3,603,722	c 07	N72-17109 *
US-PATENT-3,564,401	c 14	N71-26135 *	US-PATENT-3,576,786	c 06	N71-28620 *	US-PATENT-3,603,772	c 08	N72-22166 *
US-PATENT-3,564,420	c 14	N71-26774 *	US-PATENT-3,577,014	c 10	N71-28860 *	US-PATENT-3,603,798	c 09	N72-17152 *
US-PATENT-3,564,564	c 15	N71-26162 *	US-PATENT-3,577,092	c 07	N71-28430 *	US-PATENT-3,603,864	c 09	N72-17154 *
US-PATENT-3,564,866	c 23	N71-26654 *	US-PATENT-3,577,356	c 06	N73-30102 *	US-PATENT-3,603,892	c 09	N72-17155 *
US-PATENT-3,564,906	c 32	N71-26681 *	US-PATENT-3,578,755	c 14	N71-29134 *	US-PATENT-3,603,946	c 09	N72-17153 *
US-PATENT-3,565,530	c 15	N71-26673 *	US-PATENT-3,578,756	c 11	N71-28629 *	US-PATENT-3,603,974	c 14	N72-18411 *
US-PATENT-3,565,584	c 15	N71-27372 *	US-PATENT-3,578,758	c 14	N71-28992 *	US-PATENT-3,603,976	c 08	N72-18184 *
US-PATENT-3,565,607	c 17	N71-26773 *	US-PATENT-3,578,838	c 16	N71-29131 *	US-PATENT-3,605,032	c 10	N72-17172 *
US-PATENT-3,565,719	c 03	N71-26726 *	US-PATENT-3,578,867	c 14	N71-28994 *	US-PATENT-3,605,424	c 15	N72-17453 *
US-PATENT-3,566,027	c 07	N71-27341 *	US-PATENT-3,578,957	c 08	N71-29033 *	US-PATENT-3,605,482	c 14	N72-16282 *
US-PATENT-3,566,045	c 08	N71-27210 *	US-PATENT-3,578,988	c 09	N71-29139 *	US-PATENT-3,605,495	c 14	N72-17327 *
US-PATENT-3,566,122	c 14	N71-27323 *	US-PATENT-3,578,992	c 09	N71-28421 *	US-PATENT-3,605,519	c 14	N72-17324 *
US-PATENT-3,566,143	c 14	N71-27407 *	US-PATENT-3,579,041	c 09	N71-29008 *	US-PATENT-3,606,212	c 31	N72-18859 *
US-PATENT-3,566,158	c 10	N71-27126 *	US-PATENT-3,579,103	c 14	N71-28991 *	US-PATENT-3,606,470	c 46	N74-23068 *
US-PATENT-3,566,268	c 10	N71-26577 *	US-PATENT-3,579,122	c 08	N71-29034 *	US-PATENT-3,606,522	c 23	N72-23695 *
US-PATENT-3,566,396	c 10	N71-26544 *	US-PATENT-3,579,146	c 08	N71-29138 *	US-PATENT-3,606,979	c 15	N72-17454 *
US-PATENT-3,566,459	c 14	N71-27334 *	US-PATENT-3,579,147	c 07	N71-28429 *	US-PATENT-3,607,015	c 06	N72-17093 *
US-PATENT-3,566,676	c 14	N71-26199 *	US-PATENT-3,579,168	c 09	N71-29035 *	US-PATENT-3,607,076	c 06	N72-17094 *
US-PATENT-3,566,993	c 15	N71-27169 *	US-PATENT-3,579,242	c 07	N71-28980 *	US-PATENT-3,607,080	c 06	N72-17095 *
US-PATENT-3,567,155	c 21	N71-27324 *	US-PATENT-3,579,390	c 18	N71-28729 *	US-PATENT-3,607,338	c 18	N72-17532 *
US-PATENT-3,567,339	c 15	N71-27084 *	US-PATENT-3,579,412	c 17	N71-28747 *	US-PATENT-3,607,401	c 03	N72-15986 *
US-PATENT-3,567,651	c 18	N71-27170 *	US-PATENT-3,581,492	c 28	N71-28915 *	US-PATENT-3,607,495	c 15	N72-16330 *
US-PATENT-3,567,677	c 18	N71-25881 *	US-PATENT-3,582,828	c 33	N77-21314 *	US-PATENT-3,608,046	c 15	N72-16329 *
US-PATENT-3,567,861	c 10	N71-25865 *	US-PATENT-3,582,960	c 09	N71-28618 *	US-PATENT-3,608,365	c 15	N72-17452 *
US-PATENT-3,567,913	c 10	N71-27137 *	US-PATENT-3,583,058	c 15	N71-29018 *	US-PATENT-3,608,409	c 14	N72-16283 *
US-PATENT-3,567,927	c 14	N71-28863 *	US-PATENT-3,583,239	c 15	N71-29132 *	US-PATENT-3,608,844	c 15	N72-18477 *
US-PATENT-3,568,010	c 09	N71-27232 *	US-PATENT-3,583,322	c 05	N71-28619 *	US-PATENT-3,609,230	c 09	N72-17156 *
US-PATENT-3,568,028	c 10	N71-27136 *	US-PATENT-3,583,419	c 12	N71-28741 *	US-PATENT-3,609,271	c 09	N72-22204 *
US-PATENT-3,568,103	c 10	N71-25900 *	US-PATENT-3,583,744	c 15	N71-29133 *	US-PATENT-3,609,327	c 08	N72-22167 *
US-PATENT-3,568,197	c 07	N71-27056 *	US-PATENT-3,583,777	c 15	N71-28465 *	US-PATENT-3,609,353	c 14	N72-17328 *
US-PATENT-3,568,447	c 15	N71-27432 *	US-PATENT-3,583,815	c 15	N71-28740 *	US-PATENT-3,609,364	c 10	N72-17173 *
US-PATENT-3,568,572	c 15	N71-27754 *	US-PATENT-3,584,311	c 09	N71-28468 *	US-PATENT-3,609,387	c 09	N72-17157 *
US-PATENT-3,568,702	c 10	N71-25899 *	US-PATENT-3,584,660	c 15	N72-12408 *	US-PATENT-3,609,535	c 14	N72-17325 *
US-PATENT-3,568,748	c 15	N71-27091 *	US-PATENT-3,585,514	c 10	N71-33129 *	US-PATENT-3,609,567	c 10	N72-17171 *
US-PATENT-3,568,795	c 15	N71-27067 *	US-PATENT-3,585,882	c 15	N71-33518 *	US-PATENT-3,609,740	c 05	N72-16015 *
US-PATENT-3,568,805	c 15	N71-27146 *	US-PATENT-3,586,261	c 31	N71-33160 *	US-PATENT-3,610,365	c 15	N72-17451 *
US-PATENT-3,568,874	c 15	N71-27068 *	US-PATENT-3,587,306	c 11	N71-33612 *	US-PATENT-3,611,274	c 15	N72-17455 *
US-PATENT-3,568,885	c 14	N71-27005 *	US-PATENT-3,587,424	c 16	N71-33410 *	US-PATENT-3,611,330	c 23	N72-17747 *
US-PATENT-3,569,710	c 14	N71-25901 *	US-PATENT-3,588,220	c 23	N71-33229 *	US-PATENT-3,611,798	c 14	N72-22437 *
US-PATENT-3,569,744	c 09	N71-27016 *	US-PATENT-3,588,331	c 07	N72-12081 *	US-PATENT-3,611,801	c 14	N72-17329 *
US-PATENT-3,569,804	c 09	N71-25999 *	US-PATENT-3,588,359	c 07	N71-33108 *	US-PATENT-3,612,030	c 46	N74-23069 *
US-PATENT-3,569,827	c 18	N71-27397 *	US-PATENT-3,588,483	c 08	N71-33110 *	US-PATENT-3,612,391	c 11	N72-22245 *
US-PATENT-3,569,828	c 14	N71-27186 *	US-PATENT-3,588,648	c 07	N71-33613 *	US-PATENT-3,612,442	c 28	N72-22769 *
US-PATENT-3,569,866	c 10	N71-27271 *	US-PATENT-3,588,671	c 09	N71-33109 *	US-PATENT-3,612,645	c 14	N72-22441 *
US-PATENT-3,569,875	c 07	N71-27191 *	US-PATENT-3,588,705	c 07	N71-33696 *	US-PATENT-3,612,743	c 09	N72-22198 *
US-PATENT-3,569,956	c 10	N71-25917 *	US-PATENT-3,588,751	c 07	N71-33606 *	US-PATENT-3,612,895	c 09	N72-22197 *
US-PATENT-3,569,976	c 07	N71-27233 *	US-PATENT-3,588,874	c 09	N71-33519 *	US-PATENT-3,613,110	c 08	N72-21199 *
US-PATENT-3,570,143	c 10	N71-27365 *	US-PATENT-3,588,883	c 10	N71-33407 *	US-PATENT-3,613,111	c 08	N72-21200 *
US-PATENT-3,570,364	c 28	N71-26779 *	US-PATENT-3,591,420	c 03	N71-33409 *	US-PATENT-3,613,370	c 28	N72-22770 *
US-PATENT-3,570,513	c 12	N71-27332 *	US-PATENT-3,591,426	c 17	N71-33408 *	US-PATENT-3,613,454	c 35	N77-27368 *
US-PATENT-3,570,795	c 28	N71-27585 *	US-PATENT-3,591,885	c 15	N72-11390 *	US-PATENT-3,613,457	c 15	N72-22402 *
US-PATENT-3,570,789	c 02	N71-27088 *	US-PATENT-3,591,960	c 15	N72-12409 *	US-PATENT-3,613,794	c 12	N72-21310 *
US-PATENT-3,571,555	c 15	N71-27135 *	US-PATENT-3,591,967	c 28	N72-17109 *	US-PATENT-3,614,228	c 14	N72-21409 *
US-PATENT-3,571,656	c 09	N71-27001 *	US-PATENT-3,592,422	c 15	N72-11391 *	US-PATENT-3,614,327	c 08	N72-22162 *
US-PATENT-3,571,662	c 10	N71-27366 *	US-PATENT-3,592,478	c 09	N72-11224 *	US-PATENT-3,614,343	c 07	N72-21119 *
US-PATENT-3,571,693	c 09	N71-27364 *	US-PATENT-3,592,505	c 05	N72-11085 *	US-PATENT-3,614,431	c 14	N72-21408 *
US-PATENT-3,571,699	c 09	N71-27053 *	US-PATENT-3,592,545	c 14	N72-11364 *	US-PATENT-3,614,475	c 10	N72-16172 *
US-PATENT-3,571,700	c 14	N71-27325 *	US-PATENT-3,592,559	c 02	N72-11018 *	US-PATENT-3,614,557	c 26	N72-21701 *
US-PATENT-3,571,707	c 10	N71-27338 *						

US-PATENT-3,614,587	c 09	N72-22196 *	US-PATENT-3,638,066	c 10	N72-20225 *	US-PATENT-3,666,120	c 03	N72-25021 *
US-PATENT-3,614,648	c 09	N72-21247 *	US-PATENT-3,638,103	c 09	N72-21243 *	US-PATENT-3,666,566	c 03	N72-26031 *
US-PATENT-3,614,772	c 08	N72-22163 *	US-PATENT-3,638,114	c 10	N72-20222 *	US-PATENT-3,666,631	c 14	N72-25413 *
US-PATENT-3,614,898	c 15	N72-21462 *	US-PATENT-3,638,224	c 09	N72-21244 *	US-PATENT-3,666,718	c 06	N72-25151 *
US-PATENT-3,614,899	c 09	N72-22195 *	US-PATENT-3,639,250	c 14	N72-22443 *	US-PATENT-3,666,741	c 06	N72-25150 *
US-PATENT-3,615,021	c 15	N72-22483 *	US-PATENT-3,639,510	c 06	N72-22107 *	US-PATENT-3,666,942	c 06	N72-25146 *
US-PATENT-3,615,241	c 15	N72-21465 *	US-PATENT-3,639,809	c 15	N72-22486 *	US-PATENT-3,667,010	c 26	N72-25679 *
US-PATENT-3,615,465	c 06	N72-21094 *	US-PATENT-3,639,835	c 14	N72-22442 *	US-PATENT-3,667,039	c 26	N72-25680 *
US-PATENT-3,615,853	c 03	N72-22042 *	US-PATENT-3,640,256	c 28	N72-22772 *	US-PATENT-3,667,044	c 07	N72-25171 *
US-PATENT-3,616,338	c 15	N72-21466 *	US-PATENT-3,641,470	c 35	N78-17359 *	US-PATENT-3,668,956	c 15	N72-27485 *
US-PATENT-3,616,528	c 03	N72-22041 *	US-PATENT-3,647,276	c 14	N72-22444 *	US-PATENT-3,669,110	c 05	N72-27103 *
US-PATENT-3,617,804	c 25	N72-24753 *	US-PATENT-3,647,529	c 27	N74-23125 *	US-PATENT-3,669,393	c 15	N72-27484 *
US-PATENT-3,619,896	c 15	N72-22487 *	US-PATENT-3,647,924	c 11	N72-23215 *	US-PATENT-3,670,097	c 23	N72-27728 *
US-PATENT-3,619,924	c 11	N72-22247 *	US-PATENT-3,648,043	c 09	N72-23173 *	US-PATENT-3,670,168	c 14	N72-27409 *
US-PATENT-3,620,018	c 28	N72-22771 *	US-PATENT-3,648,083	c 12	N72-25292 *	US-PATENT-3,670,202	c 14	N72-27411 *
US-PATENT-3,620,069	c 14	N72-22440 *	US-PATENT-3,648,152	c 03	N72-23048 *	US-PATENT-3,670,241	c 14	N72-27408 *
US-PATENT-3,620,076	c 11	N72-22246 *	US-PATENT-3,648,209	c 09	N72-27226 *	US-PATENT-3,670,290	c 09	N72-28225 *
US-PATENT-3,620,083	c 14	N72-22438 *	US-PATENT-3,648,250	c 09	N72-25248 *	US-PATENT-3,670,559	c 33	N72-27959 *
US-PATENT-3,620,095	c 15	N72-21463 *	US-PATENT-3,648,256	c 08	N72-25207 *	US-PATENT-3,670,563	c 14	N72-27412 *
US-PATENT-3,620,585	c 15	N72-22490 *	US-PATENT-3,648,275	c 08	N72-25206 *	US-PATENT-3,670,564	c 11	N72-27262 *
US-PATENT-3,620,595	c 14	N72-22445 *	US-PATENT-3,648,461	c 28	N72-23810 *	US-PATENT-3,670,890	c 05	N72-27102 *
US-PATENT-3,620,606	c 23	N72-22673 *	US-PATENT-3,648,516	c 35	N74-22095 *	US-PATENT-3,671,105	c 26	N72-27784 *
US-PATENT-3,620,718	c 17	N72-22535 *	US-PATENT-3,649,242	c 15	N72-25448 *	US-PATENT-3,671,329	c 14	N72-27410 *
US-PATENT-3,620,784	c 18	N72-23581 *	US-PATENT-3,649,353	c 26	N72-28762 *	US-PATENT-3,671,497	c 06	N72-27144 *
US-PATENT-3,620,791	c 18	N72-22566 *	US-PATENT-3,649,356	c 15	N72-25447 *	US-PATENT-3,671,798	c 10	N72-27246 *
US-PATENT-3,620,846	c 31	N72-22874 *	US-PATENT-3,649,462	c 11	N72-25284 *	US-PATENT-3,672,999	c 03	N72-27053 *
US-PATENT-3,621,130	c 08	N72-22164 *	US-PATENT-3,649,907	c 09	N72-23172 *	US-PATENT-3,673,424	c 05	N72-27227 *
US-PATENT-3,621,193	c 15	N72-23497 *	US-PATENT-3,649,921	c 05	N72-23085 *	US-PATENT-3,673,440	c 09	N72-27228 *
US-PATENT-3,621,194	c 15	N72-22491 *	US-PATENT-3,649,935	c 07	N72-25170 *	US-PATENT-3,675,332	c 14	N72-28436 *
US-PATENT-3,621,228	c 08	N72-22165 *	US-PATENT-3,650,095	c 14	N72-23457 *	US-PATENT-3,675,376	c 15	N72-28496 *
US-PATENT-3,621,277	c 10	N72-22236 *	US-PATENT-3,650,474	c 28	N72-23809 *	US-PATENT-3,675,712	c 03	N72-28025 *
US-PATENT-3,621,285	c 09	N72-22200 *	US-PATENT-3,651,008	c 27	N81-24258 *	US-PATENT-3,675,910	c 17	N72-28535 *
US-PATENT-3,621,287	c 09	N72-22201 *	US-PATENT-3,653,052	c 09	N72-25247 *	US-PATENT-3,675,935	c 15	N72-29488 *
US-PATENT-3,621,290	c 09	N72-22202 *	US-PATENT-3,653,882	c 18	N72-25539 *	US-PATENT-3,676,084	c 17	N72-28536 *
US-PATENT-3,621,294	c 09	N72-23171 *	US-PATENT-3,653,970	c 03	N72-24037 *	US-PATENT-3,676,874	c 14	N72-29464 *
US-PATENT-3,621,330	c 33	N77-21316 *	US-PATENT-3,654,036	c 03	N72-25019 *	US-PATENT-3,676,754	c 26	N72-28761 *
US-PATENT-3,621,362	c 09	N72-22203 *	US-PATENT-3,655,814	c 27	N81-15104 *	US-PATENT-3,676,772	c 10	N72-28240 *
US-PATENT-3,621,372	c 09	N72-25249 *	US-PATENT-3,656,313	c 23	N72-25619 *	US-PATENT-3,676,787	c 16	N72-28521 *
US-PATENT-3,621,406	c 09	N72-33204 *	US-PATENT-3,656,317	c 33	N72-25911 *	US-PATENT-3,676,809	c 09	N72-29172 *
US-PATENT-3,621,407	c 09	N72-21245 *	US-PATENT-3,656,352	c 14	N72-25411 *	US-PATENT-3,678,191	c 10	N72-31273 *
US-PATENT-3,621,565	c 09	N72-22199 *	US-PATENT-3,656,781	c 15	N72-25450 *	US-PATENT-3,678,654	c 06	N72-31140 *
US-PATENT-3,623,030	c 08	N72-21198 *	US-PATENT-3,657,190	c 23	N82-29358 *	US-PATENT-3,678,685	c 21	N72-31637 *
US-PATENT-3,623,094	c 10	N72-22235 *	US-PATENT-3,657,549	c 14	N72-25409 *	US-PATENT-3,678,771	c 37	N74-23070 *
US-PATENT-3,623,107	c 07	N72-21117 *	US-PATENT-3,657,644	c 14	N72-24477 *	US-PATENT-3,679,360	c 04	N72-33072 *
US-PATENT-3,623,114	c 07	N72-22127 *	US-PATENT-3,657,928	c 14	N72-25410 *	US-PATENT-3,679,899	c 06	N72-31141 *
US-PATENT-3,623,359	c 35	N77-27367 *	US-PATENT-3,658,295	c 15	N72-25451 *	US-PATENT-3,680,142	c 09	N72-31235 *
US-PATENT-3,623,360	c 14	N72-21405 *	US-PATENT-3,658,569	c 15	N72-25452 *	US-PATENT-3,680,144	c 07	N72-32169 *
US-PATENT-3,623,361	c 14	N72-21407 *	US-PATENT-3,658,608	c 27	N72-25699 *	US-PATENT-3,680,830	c 15	N72-31483 *
US-PATENT-3,623,394	c 15	N72-22488 *	US-PATENT-3,658,974	c 15	N72-24522 *	US-PATENT-3,681,581	c 08	N72-31226 *
US-PATENT-3,623,828	c 15	N72-22489 *	US-PATENT-3,659,043	c 14	N72-25412 *	US-PATENT-3,686,542	c 14	N72-31446 *
US-PATENT-3,623,861	c 17	N72-22530 *	US-PATENT-3,659,053	c 08	N72-25208 *	US-PATENT-3,690,291	c 15	N72-32487 *
US-PATENT-3,624,496	c 15	N72-21464 *	US-PATENT-3,659,148	c 09	N72-25250 *	US-PATENT-3,692,533	c 05	N72-33096 *
US-PATENT-3,624,598	c 21	N72-22619 *	US-PATENT-3,659,184	c 09	N72-25251 *	US-PATENT-3,693,002	c 25	N72-32688 *
US-PATENT-3,624,650	c 07	N72-21118 *	US-PATENT-3,659,225	c 16	N72-25485 *	US-PATENT-3,693,105	c 10	N72-33230 *
US-PATENT-3,624,659	c 09	N72-21246 *	US-PATENT-3,659,292	c 08	N72-25209 *	US-PATENT-3,693,346	c 15	N72-33477 *
US-PATENT-3,624,839	c 05	N72-20098 *	US-PATENT-3,660,240	c 06	N72-25149 *	US-PATENT-3,693,418	c 14	N72-33377 *
US-PATENT-3,625,018	c 15	N72-22484 *	US-PATENT-3,660,434	c 06	N72-25148 *	US-PATENT-3,694,041	c 15	N72-33476 *
US-PATENT-3,625,084	c 15	N72-22485 *	US-PATENT-3,660,704	c 15	N72-25456 *	US-PATENT-3,694,094	c 14	N72-32452 *
US-PATENT-3,625,766	c 03	N72-20032 *	US-PATENT-3,660,851	c 05	N72-25119 *	US-PATENT-3,694,313	c 24	N72-33681 *
US-PATENT-3,626,114	c 35	N79-16246 *	US-PATENT-3,662,337	c 08	N72-25210 *	US-PATENT-3,694,581	c 08	N72-33172 *
US-PATENT-3,626,189	c 14	N72-20381 *	US-PATENT-3,662,441	c 05	N72-25121 *	US-PATENT-3,694,655	c 25	N72-33696 *
US-PATENT-3,626,218	c 14	N72-22439 *	US-PATENT-3,662,547	c 15	N72-25455 *	US-PATENT-3,694,700	c 09	N72-33205 *
US-PATENT-3,626,298	c 07	N72-20140 *	US-PATENT-3,662,604	c 13	N72-25323 *	US-PATENT-3,694,753	c 07	N72-33146 *
US-PATENT-3,626,308	c 10	N72-20223 *	US-PATENT-3,662,661	c 31	N72-25842 *	US-PATENT-3,694,771	c 09	N73-15235 *
US-PATENT-3,626,828	c 14	N72-20380 *	US-PATENT-3,662,744	c 05	N72-25122 *	US-PATENT-3,695,101	c 11	N73-12264 *
US-PATENT-3,628,113	c 37	N77-27400 *	US-PATENT-3,662,973	c 21	N72-25595 *	US-PATENT-3,696,418	c 09	N73-12211 *
US-PATENT-3,629,068	c 22	N72-20597 *	US-PATENT-3,663,346	c 18	N72-25541 *	US-PATENT-3,696,833	c 11	N73-12265 *
US-PATENT-3,629,161	c 18	N72-22567 *	US-PATENT-3,663,347	c 18	N72-25540 *	US-PATENT-3,697,021	c 15	N73-12486 *
US-PATENT-3,630,276	c 33	N72-20915 *	US-PATENT-3,663,464	c 06	N72-25147 *	US-PATENT-3,697,630	c 15	N73-12489 *
US-PATENT-3,630,304	c 11	N72-20244 *	US-PATENT-3,663,521	c 06	N72-25152 *	US-PATENT-3,697,705	c 35	N77-21392 *
US-PATENT-3,630,627	c 03	N72-20033 *	US-PATENT-3,663,753	c 14	N72-25414 *	US-PATENT-3,697,733	c 08	N73-12176 *
US-PATENT-3,631,339	c 08	N72-20177 *	US-PATENT-3,663,828	c 09	N72-25262 *	US-PATENT-3,697,950	c 08	N73-12177 *
US-PATENT-3,631,351	c 10	N72-20224 *	US-PATENT-3,663,839	c 09	N72-25260 *	US-PATENT-3,697,968	c 21	N73-13644 *
US-PATENT-3,631,382	c 09	N72-20200 *	US-PATENT-3,663,843	c 09	N72-25255 *	US-PATENT-3,698,385	c 05	N73-13114 *
US-PATENT-3,631,737	c 15	N72-28495 *	US-PATENT-3,663,885	c 09	N72-25257 *	US-PATENT-3,698,412	c 14	N73-13418 *
US-PATENT-3,632,081	c 15	N72-20442 *	US-PATENT-3,663,886	c 09	N72-25258 *	US-PATENT-3,698,659	c 11	N73-13257 *
US-PATENT-3,632,140	c 15	N72-20445 *	US-PATENT-3,663,929	c 09	N72-25256 *	US-PATENT-3,698,667	c 02	N73-13008 *
US-PATENT-3,632,242	c 15	N72-20446 *	US-PATENT-3,663,938	c 03	N72-25020 *	US-PATENT-3,698,848	c 15	N73-13464 *
US-PATENT-3,632,923	c 09	N72-20199 *	US-PATENT-3,663,940	c 09	N72-25252 *	US-PATENT-3,699,511	c 21	N73-13643 *
US-PATENT-3,632,996	c 08	N72-20176 *	US-PATENT-3,663,941	c 09	N72-25253 *	US-PATENT-3,699,645	c 14	N73-13417 *
US-PATENT-3,633,048	c 10	N72-20221 *	US-PATENT-3,663,944	c 09	N72-25254 *	US-PATENT-3,699,799	c 15	N73-13463 *
US-PATENT-3,633,110	c 07	N72-20141 *	US-PATENT-3,664,185	c 15	N72-26371 *	US-PATENT-3,699,807	c 14	N73-13416 *
US-PATENT-3,634,383	c 27	N73-22710 *	US-PATENT-3,664,874	c 09	N72-25259 *	US-PATENT-3,699,811	c 14	N73-13415 *
US-PATENT-3,635,216	c 05	N72-20096 *	US-PATENT-3,665,064	c 05	N72-25120 *	US-PATENT-3,700,005	c 15	N73-13462 *
US-PATENT-3,635,537	c 33	N80-14330 *	US-PATENT-3,665,307	c 15	N72-25457 *	US-PATENT-3,700,192	c 31	N73-13898 *
US-PATENT-3,635,765	c 03	N72-20034 *	US-PATENT-3,665,313	c 07	N72-25173 *	US-PATENT-3,700,193	c 30	N73-12884 *
US-PATENT-3,636,539	c 03	N72-20031 *	US-PATENT-3,665,417	c 07	N72-25172 *	US-PATENT-3,700,291	c 15	N73-12488 *
US-PATENT-3,636,564	c 05	N72-22092 *	US-PATENT-3,665,467	c 14	N72-28437 *	US-PATENT-3,700,334	c 14	N73-12446 *
US-PATENT-3,636,623	c 15	N72-20444 *	US-PATENT-3,665,481	c 07	N72-25174 *	US-PATENT-3,700,503	c 14	N73-12447 *
US-PATENT-3,636,711	c 28	N72-20758 *	US-PATENT-3,665,589	c 09	N72-25261 *	US-PATENT-3,700,538	c 18	N73-12604 *
US-PATENT-3,636,966	c 05	N72-20097 *	US-PATENT-3,665,669	c 15	N72-25454 *	US-PATENT-3,700,575	c 15	N73-12487 *
US-PATENT-3,637,051	c 15	N72-20443 *	US-PATENT-3,665,670	c 11	N72-25287 *	US-PATENT-3,700,603	c 14	N73-14428 *
US-PATENT-3,637,170	c 21	N72-21624 *	US-PATENT-3,665,750	c 33	N72-25913 *	US-PATENT-3,700,812	c 10	N73-12244 *
US-PATENT-3,637,312	c 14	N72-20379 *	US-PATENT-3,665,751	c 32	N72-25877 *	US-PATENT-3,700,868	c 09	N73-13209 *
US-PATENT-3,637,842	c 06	N72-20121 *	US-PATENT-3,665,758	c 11	N72-25288 *	US-PATENT-3,700,869	c 08	N73-12175 *
US-PATENT-3,638,002	c 08	N72-21197 *	US-PATENT-3,666,051	c 15	N72-25453 *	US-PATENT-3,700,893	c 14	N73-12444 *

US-PATENT-3,700,897	c 14	N73-12445 *	US-PATENT-3,734,432	c 02	N73-26004 *	US-PATENT-3,757,183	c 09	N73-32107 *
US-PATENT-3,700,961	c 23	N73-13660 *	US-PATENT-3,735,206	c 10	N73-25243 *	US-PATENT-3,757,476	c 31	N73-32749 *
US-PATENT-3,701,631	c 17	N73-12547 *	US-PATENT-3,735,591	c 25	N73-25760 *	US-PATENT-3,757,568	c 14	N73-32323 *
US-PATENT-3,701,894	c 07	N73-13149 *	US-PATENT-3,736,453	c 33	N77-22386 *	US-PATENT-3,757,659	c 14	N73-32322 *
US-PATENT-3,702,463	c 08	N73-13187 *	US-PATENT-3,736,607	c 02	N73-26006 *	US-PATENT-3,758,112	c 05	N73-32014 *
US-PATENT-3,702,520	c 32	N73-13921 *	US-PATENT-3,736,764	c 05	N73-26071 *	US-PATENT-3,758,718	c 10	N73-32143 *
US-PATENT-3,702,532	c 15	N73-13467 *	US-PATENT-3,736,849	c 14	N73-26431 *	US-PATENT-3,758,741	c 15	N73-32358 *
US-PATENT-3,702,536	c 28	N73-13773 *	US-PATENT-3,736,938	c 05	N73-27062 *	US-PATENT-3,758,781	c 14	N73-32317 *
US-PATENT-3,702,575	c 15	N73-13466 *	US-PATENT-3,736,956	c 15	N73-26472 *	US-PATENT-3,758,877	c 16	N73-32391 *
US-PATENT-3,702,688	c 31	N73-14854 *	US-PATENT-3,737,117	c 31	N73-26876 *	US-PATENT-3,759,152	c 14	N73-32319 *
US-PATENT-3,702,735	c 23	N73-13661 *	US-PATENT-3,737,118	c 15	N73-25513 *	US-PATENT-3,759,249	c 05	N73-32015 *
US-PATENT-3,702,762	c 06	N73-13129 *	US-PATENT-3,737,121	c 02	N73-26005 *	US-PATENT-3,759,443	c 28	N73-32606 *
US-PATENT-3,702,775	c 06	N73-13128 *	US-PATENT-3,737,181	c 33	N73-26958 *	US-PATENT-3,759,588	c 15	N73-32359 *
US-PATENT-3,702,791	c 15	N73-13465 *	US-PATENT-3,737,217	c 05	N73-26072 *	US-PATENT-3,759,672	c 14	N73-32320 *
US-PATENT-3,702,841	c 18	N73-13562 *	US-PATENT-3,737,231	c 07	N73-26119 *	US-PATENT-3,759,746	c 09	N73-32108 *
US-PATENT-3,702,898	c 10	N73-13235 *	US-PATENT-3,737,237	c 26	N73-26751 *	US-PATENT-3,759,747	c 44	N74-19692 *
US-PATENT-3,702,933	c 23	N73-13662 *	US-PATENT-3,737,639	c 10	N73-26230 *	US-PATENT-3,759,787	c 22	N73-32528 *
US-PATENT-3,702,951	c 09	N73-13208 *	US-PATENT-3,737,676	c 10	N73-26229 *	US-PATENT-3,760,239	c 09	N73-32112 *
US-PATENT-3,702,972	c 16	N73-13489 *	US-PATENT-3,737,757	c 10	N73-26228 *	US-PATENT-3,760,248	c 10	N73-32145 *
US-PATENT-3,702,979	c 14	N73-13420 *	US-PATENT-3,737,762	c 14	N73-28486 *	US-PATENT-3,760,257	c 09	N73-32109 *
US-PATENT-3,704,284	c 74	N81-19898 *	US-PATENT-3,737,776	c 07	N73-26118 *	US-PATENT-3,760,268	c 14	N73-32318 *
US-PATENT-3,704,659	c 14	N73-14427 *	US-PATENT-3,737,781	c 10	N73-25241 *	US-PATENT-3,760,394	c 10	N73-32144 *
US-PATENT-3,705,255	c 15	N73-14469 *	US-PATENT-3,737,815	c 09	N73-26195 *	US-PATENT-3,762,884	c 17	N73-32414 *
US-PATENT-3,705,288	c 15	N73-14468 *	US-PATENT-3,737,824	c 26	N73-26752 *	US-PATENT-3,762,918	c 17	N73-32415 *
US-PATENT-3,705,316	c 09	N73-14214 *	US-PATENT-3,737,905	c 14	N73-26432 *	US-PATENT-3,763,204	c 06	N73-32030 *
US-PATENT-3,705,406	c 07	N73-14130 *	US-PATENT-3,737,912	c 07	N73-26117 *	US-PATENT-3,763,552	c 26	N73-32571 *
US-PATENT-3,706,221	c 14	N73-14429 *	US-PATENT-3,739,646	c 04	N76-26175 *	US-PATENT-3,763,691	c 14	N73-32327 *
US-PATENT-3,706,230	c 31	N73-14855 *	US-PATENT-3,740,671	c 10	N73-27171 *	US-PATENT-3,763,708	c 35	N74-18323 *
US-PATENT-3,706,281	c 31	N73-14853 *	US-PATENT-3,740,725	c 08	N73-26176 *	US-PATENT-3,763,740	c 11	N73-32152 *
US-PATENT-3,706,583	c 18	N73-14584 *	US-PATENT-3,741,001	c 14	N73-27376 *	US-PATENT-3,763,928	c 33	N73-32818 *
US-PATENT-3,706,970	c 21	N73-14692 *	US-PATENT-3,742,316	c 09	N73-27150 *	US-PATENT-3,764,097	c 02	N74-10034 *
US-PATENT-3,708,359	c 27	N73-16764 *	US-PATENT-3,744,128	c 09	N73-28083 *	US-PATENT-3,764,209	c 14	N73-33361 *
US-PATENT-3,708,419	c 33	N73-16918 *	US-PATENT-3,744,148	c 14	N73-28489 *	US-PATENT-3,764,220	c 16	N73-33397 *
US-PATENT-3,708,671	c 14	N73-16483 *	US-PATENT-3,744,247	c 28	N73-27699 *	US-PATENT-3,764,790	c 33	N74-10223 *
US-PATENT-3,708,674	c 14	N73-16484 *	US-PATENT-3,744,294	c 14	N73-27379 *	US-PATENT-3,764,850	c 33	N74-10195 *
US-PATENT-3,709,663	c 06	N73-16106 *	US-PATENT-3,744,305	c 12	N73-28144 *	US-PATENT-3,764,933	c 33	N74-10194 *
US-PATENT-3,710,122	c 16	N73-16536 *	US-PATENT-3,744,320	c 14	N73-28487 *	US-PATENT-3,765,229	c 35	N74-10415 *
US-PATENT-3,710,257	c 07	N73-16121 *	US-PATENT-3,744,480	c 05	N73-27941 *	US-PATENT-3,765,958	c 26	N74-10521 *
US-PATENT-3,710,261	c 10	N73-16205 *	US-PATENT-3,744,510	c 15	N73-27406 *	US-PATENT-3,766,315	c 32	N74-10132 *
US-PATENT-3,710,329	c 10	N73-16206 *	US-PATENT-3,744,738	c 14	N73-27378 *	US-PATENT-3,766,380	c 35	N74-11284 *
US-PATENT-3,711,042	c 02	N73-19004 *	US-PATENT-3,744,739	c 15	N77-10112 *	US-PATENT-3,767,212	c 37	N74-10474 *
US-PATENT-3,711,701	c 74	N77-21941 *	US-PATENT-3,744,794	c 14	N73-27377 *	US-PATENT-3,769,544	c 31	N78-17238 *
US-PATENT-3,712,120	c 14	N73-19421 *	US-PATENT-3,744,912	c 16	N73-30476 *	US-PATENT-3,769,623	c 32	N74-11000 *
US-PATENT-3,712,121	c 14	N73-19420 *	US-PATENT-3,744,913	c 14	N73-28490 *	US-PATENT-3,769,689	c 37	N74-11301 *
US-PATENT-3,712,132	c 14	N73-20478 *	US-PATENT-3,744,972	c 17	N73-27446 *	US-PATENT-3,769,834	c 52	N74-10975 *
US-PATENT-3,712,195	c 14	N73-19419 *	US-PATENT-3,745,082	c 18	N73-30532 *	US-PATENT-3,770,021	c 33	N74-11050 *
US-PATENT-3,712,591	c 15	N73-19458 *	US-PATENT-3,745,089	c 06	N73-27086 *	US-PATENT-3,770,903	c 35	N74-11283 *
US-PATENT-3,713,163	c 09	N73-19234 *	US-PATENT-3,745,090	c 04	N73-27052 *	US-PATENT-3,770,933	c 37	N74-11300 *
US-PATENT-3,713,290	c 28	N73-19793 *	US-PATENT-3,745,149	c 06	N73-27980 *	US-PATENT-3,771,037	c 08	N74-10942 *
US-PATENT-3,713,480	c 05	N73-20137 *	US-PATENT-3,745,255	c 07	N73-28012 *	US-PATENT-3,771,040	c 33	N74-11049 *
US-PATENT-3,713,987	c 15	N73-20514 *	US-PATENT-3,745,300	c 15	N73-28515 *	US-PATENT-3,771,074	c 36	N74-11313 *
US-PATENT-3,714,332	c 15	N73-19457 *	US-PATENT-3,745,352	c 08	N73-30135 *	US-PATENT-3,771,959	c 25	N74-12813 *
US-PATENT-3,714,405	c 10	N73-20253 *	US-PATENT-3,745,357	c 14	N73-28488 *	US-PATENT-3,772,174	c 27	N74-13270 *
US-PATENT-3,714,432	c 14	N73-20475 *	US-PATENT-3,745,410	c 09	N73-30181 *	US-PATENT-3,772,216	c 27	N74-12812 *
US-PATENT-3,714,526	c 09	N73-19235 *	US-PATENT-3,745,475	c 14	N73-30386 *	US-PATENT-3,772,220	c 27	N74-12814 *
US-PATENT-3,714,588	c 09	N73-20231 *	US-PATENT-3,745,739	c 15	N73-27405 *	US-PATENT-3,772,272	c 33	N74-12887 *
US-PATENT-3,714,624	c 14	N73-20474 *	US-PATENT-3,745,816	c 33	N73-27796 *	US-PATENT-3,772,418	c 31	N74-13177 *
US-PATENT-3,714,645	c 08	N73-20217 *	US-PATENT-3,746,998	c 07	N73-30113 *	US-PATENT-3,772,691	c 32	N74-12912 *
US-PATENT-3,714,821	c 14	N73-20476 *	US-PATENT-3,747,111	c 07	N73-28013 *	US-PATENT-3,773,038	c 52	N74-12778 *
US-PATENT-3,714,833	c 11	N73-20267 *	US-PATENT-3,748,722	c 15	N73-33383 *	US-PATENT-3,773,913	c 46	N74-13011 *
US-PATENT-3,715,092	c 03	N73-20039 *	US-PATENT-3,748,853	c 23	N73-30665 *	US-PATENT-3,775,101	c 37	N74-13179 *
US-PATENT-3,715,152	c 23	N73-20741 *	US-PATENT-3,748,905	c 14	N73-30395 *	US-PATENT-3,775,020	c 35	N78-29421 *
US-PATENT-3,715,590	c 14	N73-20477 *	US-PATENT-3,749,123	c 15	N73-30459 *	US-PATENT-3,776,078	c 35	N74-13129 *
US-PATENT-3,715,600	c 03	N73-20040 *	US-PATENT-3,749,156	c 31	N73-30829 *	US-PATENT-3,776,432	c 37	N74-13178 *
US-PATENT-3,715,660	c 07	N73-20175 *	US-PATENT-3,749,205	c 15	N73-30460 *	US-PATENT-3,776,455	c 04	N74-13420 *
US-PATENT-3,715,663	c 07	N73-20174 *	US-PATENT-3,749,332	c 31	N73-32750 *	US-PATENT-3,777,200	c 33	N74-12913 *
US-PATENT-3,715,693	c 09	N73-20232 *	US-PATENT-3,749,362	c 15	N73-30457 *	US-PATENT-3,777,490	c 20	N74-13502 *
US-PATENT-3,715,723	c 07	N73-20176 *	US-PATENT-3,749,831	c 07	N73-30115 *	US-PATENT-3,777,546	c 35	N74-13132 *
US-PATENT-3,715,915	c 32	N73-20740 *	US-PATENT-3,749,911	c 14	N73-30389 *	US-PATENT-3,777,552	c 38	N74-15130 *
US-PATENT-3,718,863	c 10	N73-20254 *	US-PATENT-3,750,016	c 14	N73-30388 *	US-PATENT-3,777,605	c 39	N74-13131 *
US-PATENT-3,719,891	c 07	N73-25160 *	US-PATENT-3,750,035	c 33	N77-13315 *	US-PATENT-3,777,811	c 34	N78-17336 *
US-PATENT-3,720,075	c 33	N73-25952 *	US-PATENT-3,750,067	c 09	N73-30185 *	US-PATENT-3,777,942	c 54	N74-12779 *
US-PATENT-3,720,208	c 05	N73-25125 *	US-PATENT-3,750,131	c 10	N73-30205 *	US-PATENT-3,778,685	c 33	N74-12951 *
US-PATENT-3,723,745	c 14	N73-25462 *	US-PATENT-3,750,168	c 21	N73-30641 *	US-PATENT-3,778,786	c 60	N74-12888 *
US-PATENT-3,728,861	c 28	N73-24783 *	US-PATENT-3,750,479	c 05	N73-30078 *	US-PATENT-3,778,791	c 36	N74-13205 *
US-PATENT-3,729,068	c 15	N73-25512 *	US-PATENT-3,751,123	c 15	N73-30458 *	US-PATENT-3,779,788	c 70	N74-13436 *
US-PATENT-3,729,129	c 08	N73-25206 *	US-PATENT-3,751,727	c 05	N73-32012 *	US-PATENT-3,780,151	c 31	N74-14133 *
US-PATENT-3,729,260	c 14	N73-25463 *	US-PATENT-3,751,733	c 05	N73-32013 *	US-PATENT-3,780,424	c 44	N74-14784 *
US-PATENT-3,729,343	c 14	N73-24472 *	US-PATENT-3,751,913	c 06	N73-30097 *	US-PATENT-3,780,563	c 35	N74-15092 *
US-PATENT-3,729,676	c 14	N73-24473 *	US-PATENT-3,751,980	c 14	N73-32326 *	US-PATENT-3,780,827	c 07	N74-15453 *
US-PATENT-3,729,736	c 07	N73-25161 *	US-PATENT-3,752,556	c 35	N74-17153 *	US-PATENT-3,780,966	c 19	N74-15089 *
US-PATENT-3,729,743	c 07	N73-24176 *	US-PATENT-3,752,559	c 14	N73-30393 *	US-PATENT-3,781,111	c 36	N74-15145 *
US-PATENT-3,729,935	c 28	N73-24784 *	US-PATENT-3,752,564	c 23	N73-30666 *	US-PATENT-3,781,549	c 35	N74-15090 *
US-PATENT-3,730,287	c 11	N73-26238 *	US-PATENT-3,752,665	c 18	N73-32437 *	US-PATENT-3,781,562	c 35	N74-15091 *
US-PATENT-3,730,891	c 18	N73-26572 *	US-PATENT-3,752,847	c 06	N73-30098 *	US-PATENT-3,781,902	c 35	N74-15831 *
US-PATENT-3,731,528	c 12	N73-25262 *	US-PATENT-3,752,986	c 14	N73-30392 *	US-PATENT-3,781,933	c 54	N74-14845 *
US-PATENT-3,731,531	c 14	N73-25460 *	US-PATENT-3,752,993	c 21	N73-30640 *	US-PATENT-3,781,958	c 37	N74-15128 *
US-PATENT-3,732,040	c 15	N73-24513 *	US-PATENT-3,752,996	c 91	N74-13130 *	US-PATENT-3,782,101	c 38	N74-15395 *
US-PATENT-3,732,158	c 17	N73-24569 *	US-PATENT-3,753,148	c 09	N73-32111 *	US-PATENT-3,782,185	c 34	N74-15652 *
US-PATENT-3,732,397	c 33	N74-14935 *	US-PATENT-3,754,236	c 08	N73-32081 *	US-PATENT-3,782,205	c 35	N74-15094 *
US-PATENT-3,732,405	c 10	N73-25240 *	US-PATENT-3,754,263	c 09	N73-32110 *	US-PATENT-3,782,334	c 51	N74-15778 *
US-PATENT-3,732,409	c 08	N73-26175 *	US-PATENT-3,754,976	c 15	N73-32360 *	US-PATENT-3,782,698	c 35	N74-15093 *
US-PATENT-3,732,567	c 14	N73-25461 *	US-PATENT-3,755,265	c 06	N73-33076 *	US-PATENT-3,782,699	c 35	N74-15126 *
US-PATENT-3,733,350	c 06	N73-26100 *	US-PATENT-3,755,283	c 06	N73-32029 *	US-PATENT-3,782,737	c 37	N74-15125 *
US-PATENT-3,733,424	c 32	N73-26910 *	US-PATENT-3,755,686	c 03	N73-31988 *	US-PATENT-3,782,825	c 35	N74-15146 *
US-PATENT-3,733,463	c 14	N73-26430 *	US-PATENT-3,756,920	c 05	N73-32011 *	US-PATENT-3,782,835	c 74	N74-15095 *

US-PATENT-3,782,904	c 35	N74-15127 *	US-PATENT-3,814,645	c 24	N74-30001 *	US-PATENT-3,854,097	c 75	N75-13625 *
US-PATENT-3,783,250	c 62	N74-14920 *	US-PATENT-3,814,653	c 24	N74-27035 *	US-PATENT-3,854,113	c 37	N75-13265 *
US-PATENT-3,783,354	c 33	N74-14956 *	US-PATENT-3,814,678	c 25	N74-26948 *	US-PATENT-3,855,873	c 37	N75-13266 *
US-PATENT-3,783,399	c 33	N74-14939 *	US-PATENT-3,814,939	c 25	N74-26947 *	US-PATENT-3,856,042	c 37	N75-15050 *
US-PATENT-3,783,443	c 35	N74-16135 *	US-PATENT-3,815,048	c 33	N74-26732 *	US-PATENT-3,856,402	c 36	N75-15028 *
US-PATENT-3,784,499	c 27	N74-17283 *	US-PATENT-3,815,109	c 52	N74-26625 *	US-PATENT-3,856,471	c 25	N75-14844 *
US-PATENT-3,785,836	c 27	N82-29452 *	US-PATENT-3,815,205	c 33	N74-26977 *	US-PATENT-3,856,534	c 23	N75-14834 *
US-PATENT-3,787,959	c 37	N74-18128 *	US-PATENT-3,815,969	c 35	N74-26946 *	US-PATENT-3,857,031	c 35	N75-15014 *
US-PATENT-3,788,163	c 37	N74-18127 *	US-PATENT-3,816,657	c 32	N74-26654 *	US-PATENT-3,857,045	c 33	N75-14957 *
US-PATENT-3,789,654	c 25	N74-18551 *	US-PATENT-3,816,785	c 73	N74-26767 *	US-PATENT-3,859,119	c 36	N75-15029 *
US-PATENT-3,789,920	c 34	N74-18552 *	US-PATENT-3,817,082	c 34	N74-27730 *	US-PATENT-3,859,714	c 37	N75-15992 *
US-PATENT-3,789,947	c 37	N74-18125 *	US-PATENT-3,817,084	c 31	N74-27900 *	US-PATENT-3,859,714	c 24	N79-25143 *
US-PATENT-3,790,037	c 54	N74-17853 *	US-PATENT-3,817,622	c 75	N74-30156 *	US-PATENT-3,859,736	c 09	N75-15662 *
US-PATENT-3,790,347	c 37	N74-18123 *	US-PATENT-3,817,627	c 35	N74-27860 *	US-PATENT-3,859,840	c 35	N75-15932 *
US-PATENT-3,790,409	c 44	N74-19693 *	US-PATENT-3,818,325	c 44	N74-27519 *	US-PATENT-3,859,845	c 35	N75-15931 *
US-PATENT-3,790,432	c 37	N74-18126 *	US-PATENT-3,818,346	c 33	N74-27705 *	US-PATENT-3,860,342	c 35	N75-16783 *
US-PATENT-3,790,650	c 31	N74-18124 *	US-PATENT-3,818,767	c 35	N74-28097 *	US-PATENT-3,860,393	c 25	N76-18245 *
US-PATENT-3,790,795	c 35	N74-18088 *	US-PATENT-3,818,775	c 37	N74-27901 *	US-PATENT-3,860,858	c 33	N75-15874 *
US-PATENT-3,790,906	c 33	N74-17927 *	US-PATENT-3,818,814	c 31	N74-27902 *	US-PATENT-3,860,921	c 32	N75-15854 *
US-PATENT-3,791,207	c 09	N74-17955 *	US-PATENT-3,819,299	c 37	N74-27904 *	US-PATENT-3,860,946	c 33	N79-11314 *
US-PATENT-3,792,399	c 33	N74-17928 *	US-PATENT-3,819,419	c 34	N74-27861 *	US-PATENT-3,863,881	c 37	N75-18573 *
US-PATENT-3,793,109	c 31	N74-18089 *	US-PATENT-3,819,440	c 32	N74-27612 *	US-PATENT-3,864,060	c 35	N75-19611 *
US-PATENT-3,795,134	c 09	N74-19528 *	US-PATENT-3,819,550	c 27	N74-27037 *	US-PATENT-3,864,239	c 37	N75-19684 *
US-PATENT-3,795,448	c 72	N74-19310 *	US-PATENT-3,820,095	c 33	N74-27862 *	US-PATENT-3,864,542	c 37	N75-19683 *
US-PATENT-3,795,840	c 33	N74-17929 *	US-PATENT-3,820,286	c 37	N74-27905 *	US-PATENT-3,864,797	c 20	N75-18310 *
US-PATENT-3,795,858	c 35	N74-18090 *	US-PATENT-3,820,388	c 35	N74-27865 *	US-PATENT-3,864,953	c 35	N75-19615 *
US-PATENT-3,795,662	c 33	N74-17930 *	US-PATENT-3,820,529	c 52	N74-27864 *	US-PATENT-3,864,960	c 35	N75-19612 *
US-PATENT-3,795,900	c 35	N74-17885 *	US-PATENT-3,820,630	c 07	N74-27490 *	US-PATENT-3,865,442	c 37	N75-18574 *
US-PATENT-3,795,910	c 44	N74-19870 *	US-PATENT-3,820,741	c 37	N74-27903 *	US-PATENT-3,865,975	c 36	N75-19652 *
US-PATENT-3,796,473	c 37	N74-20063 *	US-PATENT-3,820,918	c 07	N74-28226 *	US-PATENT-3,866,022	c 33	N75-19519 *
US-PATENT-3,796,592	c 24	N74-19769 *	US-PATENT-3,821,102	c 34	N74-27744 *	US-PATENT-3,866,114	c 33	N75-18477 *
US-PATENT-3,797,098	c 37	N74-21057 *	US-PATENT-3,821,462	c 33	N74-27683 *	US-PATENT-3,866,128	c 33	N75-19515 *
US-PATENT-3,797,919	c 70	N74-21300 *	US-PATENT-3,821,546	c 33	N74-27682 *	US-PATENT-3,866,210	c 33	N75-19517 *
US-PATENT-3,798,741	c 31	N74-21059 *	US-PATENT-3,821,556	c 74	N74-27866 *	US-PATENT-3,866,233	c 33	N75-19516 *
US-PATENT-3,798,748	c 37	N74-21055 *	US-PATENT-3,824,707	c 09	N74-30597 *	US-PATENT-3,866,863	c 18	N75-19329 *
US-PATENT-3,798,778	c 19	N74-21015 *	US-PATENT-3,825,760	c 19	N74-29410 *	US-PATENT-3,867,677	c 33	N75-19524 *
US-PATENT-3,798,896	c 37	N74-21060 *	US-PATENT-3,826,448	c 08	N74-30421 *	US-PATENT-3,868,591	c 36	N75-19655 *
US-PATENT-3,799,149	c 52	N74-20728 *	US-PATENT-3,826,726	c 25	N74-30502 *	US-PATENT-3,868,830	c 77	N75-20139 *
US-PATENT-3,799,475	c 02	N74-20646 *	US-PATENT-3,826,729	c 20	N74-31269 *	US-PATENT-3,868,856	c 35	N75-19614 *
US-PATENT-3,799,793	c 74	N74-20008 *	US-PATENT-3,826,964	c 33	N74-29556 *	US-PATENT-3,869,151	c 37	N75-19686 *
US-PATENT-3,799,813	c 76	N74-20329 *	US-PATENT-3,827,288	c 71	N74-31148 *	US-PATENT-3,869,160	c 37	N75-19685 *
US-PATENT-3,800,074	c 36	N74-20009 *	US-PATENT-3,827,807	c 89	N74-30886 *	US-PATENT-3,869,210	c 36	N75-19653 *
US-PATENT-3,800,082	c 71	N74-21014 *	US-PATENT-3,828,137	c 32	N74-30524 *	US-PATENT-3,869,212	c 35	N75-19613 *
US-PATENT-3,800,224	c 32	N74-19790 *	US-PATENT-3,828,138	c 32	N74-30523 *	US-PATENT-3,869,597	c 77	N75-20140 *
US-PATENT-3,800,227	c 32	N74-20809 *	US-PATENT-3,828,524	c 34	N74-30608 *	US-PATENT-3,869,615	c 35	N75-19616 *
US-PATENT-3,800,237	c 32	N74-19788 *	US-PATENT-3,829,237	c 07	N74-31270 *	US-PATENT-3,869,624	c 33	N75-18479 *
US-PATENT-3,800,253	c 37	N74-21056 *	US-PATENT-3,829,839	c 60	N76-18800 *	US-PATENT-3,869,659	c 33	N75-19522 *
US-PATENT-3,801,617	c 37	N74-21058 *	US-PATENT-3,830,060	c 44	N74-33379 *	US-PATENT-3,869,667	c 33	N75-19521 *
US-PATENT-3,802,249	c 35	N74-21019 *	US-PATENT-3,830,094	c 35	N74-32879 *	US-PATENT-3,869,676	c 33	N75-19520 *
US-PATENT-3,802,253	c 52	N74-20726 *	US-PATENT-3,830,335	c 07	N74-32418 *	US-PATENT-3,869,680	c 36	N75-19654 *
US-PATENT-3,802,262	c 35	N74-21018 *	US-PATENT-3,830,431	c 07	N74-33218 *	US-PATENT-3,869,779	c 26	N75-19408 *
US-PATENT-3,802,660	c 37	N74-21065 *	US-PATENT-3,830,552	c 37	N74-32921 *	US-PATENT-3,872,395	c 33	N75-19518 *
US-PATENT-3,802,753	c 37	N74-21064 *	US-PATENT-3,830,609	c 31	N74-32920 *	US-PATENT-3,874,240	c 35	N75-25122 *
US-PATENT-3,802,779	c 74	N74-21304 *	US-PATENT-3,830,673	c 28	N74-33209 *	US-PATENT-3,874,635	c 37	N75-25185 *
US-PATENT-3,803,090	c 27	N74-21156 *	US-PATENT-3,831,098	c 33	N74-32711 *	US-PATENT-3,874,677	c 37	N75-21631 *
US-PATENT-3,803,393	c 60	N74-20836 *	US-PATENT-3,831,117	c 33	N74-32712 *	US-PATENT-3,875,332	c 32	N75-21486 *
US-PATENT-3,803,445	c 32	N74-20813 *	US-PATENT-3,831,142	c 32	N74-32598 *	US-PATENT-3,875,394	c 33	N75-26243 *
US-PATENT-3,803,617	c 32	N74-20863 *	US-PATENT-3,832,290	c 20	N74-32919 *	US-PATENT-3,875,404	c 35	N75-23910 *
US-PATENT-3,804,472	c 37	N74-21061 *	US-PATENT-3,832,735	c 54	N74-32546 *	US-PATENT-3,875,435	c 20	N75-24837 *
US-PATENT-3,804,506	c 33	N74-20861 *	US-PATENT-3,832,764	c 37	N74-32918 *	US-PATENT-3,875,500	c 35	N75-21582 *
US-PATENT-3,804,525	c 36	N74-21091 *	US-PATENT-3,832,781	c 35	N74-32877 *	US-PATENT-3,875,584	c 32	N75-21485 *
US-PATENT-3,804,703	c 37	N74-21063 *	US-PATENT-3,832,903	c 35	N74-32878 *	US-PATENT-3,877,833	c 37	N75-25186 *
US-PATENT-3,805,266	c 32	N74-20864 *	US-PATENT-3,833,322	c 31	N74-32917 *	US-PATENT-3,878,464	c 32	N75-24981 *
US-PATENT-3,805,303	c 54	N74-20725 *	US-PATENT-3,833,336	c 25	N74-33378 *	US-PATENT-3,881,132	c 33	N77-21315 *
US-PATENT-3,805,622	c 35	N74-21062 *	US-PATENT-3,833,857	c 33	N74-32660 *	US-PATENT-3,882,417	c 36	N78-17366 *
US-PATENT-3,806,756	c 33	N74-21850 *	US-PATENT-3,835,318	c 35	N74-34857 *	US-PATENT-3,882,530	c 76	N75-25730 *
US-PATENT-3,806,802	c 35	N74-21017 *	US-PATENT-3,837,285	c 85	N74-34672 *	US-PATENT-3,882,634	c 51	N75-25503 *
US-PATENT-3,806,815	c 32	N74-20811 *	US-PATENT-3,837,908	c 76	N79-16678 *	US-PATENT-3,882,719	c 14	N75-24794 *
US-PATENT-3,806,816	c 32	N74-20810 *	US-PATENT-3,840,829	c 33	N74-34638 *	US-PATENT-3,882,732	c 12	N75-24774 *
US-PATENT-3,806,831	c 33	N74-20862 *	US-PATENT-3,841,973	c 35	N75-12272 *	US-PATENT-3,882,846	c 05	N75-24716 *
US-PATENT-3,806,834	c 36	N76-18427 *	US-PATENT-3,842,485	c 37	N75-12326 *	US-PATENT-3,883,095	c 07	N75-24736 *
US-PATENT-3,806,835	c 33	N74-20859 *	US-PATENT-3,842,509	c 35	N75-12273 *	US-PATENT-3,883,215	c 35	N75-25124 *
US-PATENT-3,806,932	c 33	N74-20860 *	US-PATENT-3,842,656	c 76	N75-12810 *	US-PATENT-3,883,436	c 74	N75-25706 *
US-PATENT-3,807,384	c 34	N74-23039 *	US-PATENT-3,845,466	c 74	N81-19896 *	US-PATENT-3,883,689	c 35	N75-25123 *
US-PATENT-3,807,656	c 18	N74-22136 *	US-PATENT-3,846,243	c 25	N75-12086 *	US-PATENT-3,883,785	c 09	N75-24758 *
US-PATENT-3,808,464	c 33	N74-22814 *	US-PATENT-3,847,115	c 31	N75-12161 *	US-PATENT-3,883,812	c 33	N75-25041 *
US-PATENT-3,808,511	c 33	N74-22864 *	US-PATENT-3,847,141	c 35	N75-12271 *	US-PATENT-3,883,817	c 33	N75-25040 *
US-PATENT-3,808,517	c 33	N74-22885 *	US-PATENT-3,847,208	c 34	N75-12222 *	US-PATENT-3,883,872	c 32	N75-24982 *
US-PATENT-3,809,481	c 35	N74-23040 *	US-PATENT-3,847,652	c 25	N75-12087 *	US-PATENT-3,884,432	c 05	N75-25914 *
US-PATENT-3,809,601	c 37	N74-23064 *	US-PATENT-3,847,689	c 74	N75-12732 *	US-PATENT-3,884,765	c 35	N75-27330 *
US-PATENT-3,809,800	c 33	N74-22865 *	US-PATENT-3,848,190	c 35	N75-12270 *	US-PATENT-3,887,233	c 05	N75-25915 *
US-PATENT-3,809,871	c 52	N74-22771 *	US-PATENT-3,849,554	c 52	N75-15270 *	US-PATENT-3,887,345	c 35	N75-26334 *
US-PATENT-3,810,829	c 31	N74-23065 *	US-PATENT-3,849,668	c 54	N75-12616 *	US-PATENT-3,887,365	c 37	N75-26371 *
US-PATENT-3,811,044	c 34	N74-23066 *	US-PATENT-3,849,720	c 33	N77-26387 *	US-PATENT-3,888,362	c 54	N75-27758 *
US-PATENT-3,811,094	c 33	N74-21851 *	US-PATENT-3,849,865	c 37	N75-13261 *	US-PATENT-3,888,410	c 34	N75-26282 *
US-PATENT-3,811,429	c 52	N74-27566 *	US-PATENT-3,849,875	c 35	N75-13213 *	US-PATENT-3,888,561	c 35	N75-27328 *
US-PATENT-3,811,901	c 27	N82-29454 *	US-PATENT-3,849,877	c 24	N75-13032 *	US-PATENT-3,888,705	c 25	N75-26043 *
US-PATENT-3,812,358	c 35	N74-26949 *	US-PATENT-3,850,169	c 54	N75-13531 *	US-PATENT-3,889,064	c 32	N75-26195 *
US-PATENT-3,812,783	c 28	N74-27425 *	US-PATENT-3,850,388	c 05	N75-12930 *	US-PATENT-3,889,122	c 37	N75-26372 *
US-PATENT-3,812,924	c 35	N74-26945 *	US-PATENT-3,850,567	c 31	N75-13111 *	US-PATENT-3,889,155	c 33	N75-26244 *
US-PATENT-3,812,936	c 37	N74-26976 *	US-PATENT-3,850,754	c 51	N75-13502 *	US-PATENT-3,889,182	c 33	N75-26245 *
US-PATENT-3,813,183	c 37	N74-25968 *	US-PATENT-3,851,162	c 60	N75-13539 *	US-PATENT-3,889,185	c 33	N75-26246 *
US-PATENT-3,813,875	c 15	N74-27360 *	US-PATENT-3,851,238	c 33	N75-13139 *	US-PATENT-3,889,264	c 32	N75-26194 *
US-PATENT-3,813,937	c 34	N74-27859 *	US-PATENT-3,851,250	c 15	N75-13007 *	US-PATENT-3,891,311	c 54	N75-27759 *
US-PATENT-3,814,083	c 52	N74-26626 *	US-PATENT-3,853,003	c 09	N75-12969 *	US-PATENT-3,891,452	c 27	N75-27160 *
US-PATENT-3,814,350	c 18	N74-27397 *	US-PATENT-3,853,075	c 09	N75-12968 *	US-PATENT-3,891,533	c 33	N75-27252 *



US-PATENT-3,891,848	c 45	N75-27585 *	US-PATENT-3,929,306	c 18	N76-17185 *	US-PATENT-3,971,535	c 05	N76-29217 *
US-PATENT-3,891,851	c 35	N75-27331 *	US-PATENT-3,929,364	c 35	N76-16392 *	US-PATENT-3,971,602	c 37	N76-29588 *
US-PATENT-3,893,449	c 54	N75-27760 *	US-PATENT-3,930,628	c 02	N76-16014 *	US-PATENT-3,971,697	c 25	N76-29379 *
US-PATENT-3,893,458	c 54	N75-27761 *	US-PATENT-3,930,735	c 66	N76-19888 *	US-PATENT-3,971,703	c 51	N76-29891 *
US-PATENT-3,893,573	c 18	N75-27041 *	US-PATENT-3,931,132	c 27	N76-16228 *	US-PATENT-3,971,847	c 44	N76-29704 *
US-PATENT-3,894,289	c 36	N75-27364 *	US-PATENT-3,931,447	c 27	N76-16229 *	US-PATENT-3,971,915	c 35	N76-29552 *
US-PATENT-3,894,677	c 24	N75-28135 *	US-PATENT-3,931,456	c 33	N76-16332 *	US-PATENT-3,971,930	c 74	N76-30053 *
US-PATENT-3,894,887	c 44	N76-18641 *	US-PATENT-3,931,462	c 45	N76-17656 *	US-PATENT-3,971,940	c 35	N76-29551 *
US-PATENT-3,895,521	c 35	N75-29381 *	US-PATENT-3,931,516	c 35	N76-16393 *	US-PATENT-3,972,008	c 36	N76-29575 *
US-PATENT-3,895,912	c 35	N75-29380 *	US-PATENT-3,931,532	c 44	N76-16612 *	US-PATENT-3,972,038	c 17	N76-29347 *
US-PATENT-3,896,758	c 35	N75-33367 *	US-PATENT-3,932,262	c 25	N79-10163 *	US-PATENT-3,972,651	c 44	N76-29701 *
US-PATENT-3,896,955	c 37	N77-22480 *	US-PATENT-3,936,927	c 37	N76-19437 *	US-PATENT-3,972,727	c 44	N76-29699 *
US-PATENT-3,898,578	c 33	N75-30428 *	US-PATENT-3,937,055	c 37	N76-18454 *	US-PATENT-3,976,997	c 62	N76-31946 *
US-PATENT-3,898,730	c 24	N75-30260 *	US-PATENT-3,937,212	c 33	N76-19338 *	US-PATENT-3,977,147	c 39	N76-31562 *
US-PATENT-3,898,882	c 35	N75-30503 *	US-PATENT-3,937,215	c 52	N76-19785 *	US-PATENT-3,977,197	c 44	N76-31667 *
US-PATENT-3,899,224	c 37	N75-30562 *	US-PATENT-3,937,387	c 37	N76-18455 *	US-PATENT-3,977,231	c 35	N76-31489 *
US-PATENT-3,899,252	c 35	N75-30502 *	US-PATENT-3,937,533	c 37	N76-18459 *	US-PATENT-3,977,771	c 74	N76-31998 *
US-PATENT-3,899,517	c 23	N75-30256 *	US-PATENT-3,937,555	c 35	N76-18402 *	US-PATENT-3,977,787	c 35	N76-31490 *
US-PATENT-3,899,680	c 73	N75-30876 *	US-PATENT-3,937,661	c 37	N76-18456 *	US-PATENT-3,977,831	c 45	N76-31714 *
US-PATENT-3,899,696	c 36	N75-30524 *	US-PATENT-3,937,945	c 74	N76-18913 *	US-PATENT-3,978,187	c 37	N76-31524 *
US-PATENT-3,899,745	c 33	N75-30429 *	US-PATENT-3,938,035	c 33	N76-19339 *	US-PATENT-3,978,287	c 32	N76-31372 *
US-PATENT-3,899,755	c 33	N75-30431 *	US-PATENT-3,938,037	c 26	N76-18257 *	US-PATENT-3,978,360	c 33	N76-31409 *
US-PATENT-3,900,705	c 35	N75-30504 *	US-PATENT-3,938,162	c 32	N76-18295 *	US-PATENT-3,978,364	c 31	N76-31365 *
US-PATENT-3,900,841	c 03	N75-30132 *	US-PATENT-3,938,182	c 33	N76-18353 *	US-PATENT-3,978,410	c 03	N76-32140 *
US-PATENT-3,902,143	c 33	N75-30430 *	US-PATENT-3,938,188	c 33	N76-18345 *	US-PATENT-3,978,417	c 36	N76-31512 *
US-PATENT-3,903,699	c 44	N75-32581 *	US-PATENT-3,938,367	c 35	N76-18401 *	US-PATENT-3,978,490	c 33	N76-32457 *
US-PATENT-3,905,356	c 33	N75-31329 *	US-PATENT-3,938,373	c 35	N76-18400 *	US-PATENT-3,982,910	c 44	N77-10636 *
US-PATENT-3,905,660	c 37	N75-31446 *	US-PATENT-3,938,742	c 07	N76-18117 *	US-PATENT-3,983,695	c 20	N77-10148 *
US-PATENT-3,906,231	c 33	N75-31332 *	US-PATENT-3,938,892	c 74	N76-19935 *	US-PATENT-3,983,714	c 31	N77-10229 *
US-PATENT-3,906,296	c 33	N75-31331 *	US-PATENT-3,938,956	c 35	N76-18403 *	US-PATENT-3,983,749	c 09	N77-10071 *
US-PATENT-3,906,374	c 33	N75-31330 *	US-PATENT-3,939,048	c 37	N76-18458 *	US-PATENT-3,983,753	c 52	N77-10780 *
US-PATENT-3,906,393	c 36	N75-31427 *	US-PATENT-3,939,439	c 36	N76-18428 *	US-PATENT-3,983,780	c 28	N77-10213 *
US-PATENT-3,906,397	c 36	N75-31426 *	US-PATENT-3,940,097	c 34	N76-18364 *	US-PATENT-3,983,933	c 34	N77-10463 *
US-PATENT-3,906,398	c 36	N75-32441 *	US-PATENT-3,940,621	c 34	N76-18374 *	US-PATENT-3,984,070	c 02	N77-10001 *
US-PATENT-3,906,769	c 24	N75-33181 *	US-PATENT-3,941,355	c 37	N76-19436 *	US-PATENT-3,984,072	c 15	N77-10113 *
US-PATENT-3,906,788	c 35	N75-33369 *	US-PATENT-3,942,398	c 37	N76-20480 *	US-PATENT-3,984,256	c 44	N77-10635 *
US-PATENT-3,906,913	c 37	N76-18457 *	US-PATENT-3,943,368	c 74	N76-20958 *	US-PATENT-3,984,634	c 32	N77-10392 *
US-PATENT-3,906,954	c 52	N75-33640 *	US-PATENT-3,943,442	c 76	N76-20994 *	US-PATENT-3,984,671	c 43	N77-10584 *
US-PATENT-3,907,312	c 37	N75-33395 *	US-PATENT-3,943,763	c 04	N76-20114 *	US-PATENT-3,984,681	c 35	N77-10492 *
US-PATENT-3,907,646	c 35	N75-33368 *	US-PATENT-3,944,485	c 25	N81-19244 *	US-PATENT-3,984,685	c 47	N77-10753 *
US-PATENT-3,907,686	c 34	N75-33342 *	US-PATENT-3,945,801	c 45	N76-21742 *	US-PATENT-3,984,686	c 35	N77-10493 *
US-PATENT-3,908,118	c 38	N78-17395 *	US-PATENT-3,945,879	c 37	N76-21554 *	US-PATENT-3,984,730	c 33	N77-10429 *
US-PATENT-3,909,602	c 38	N78-17396 *	US-PATENT-3,947,281	c 27	N82-29455 *	US-PATENT-3,984,799	c 33	N77-10428 *
US-PATENT-3,910,035	c 20	N76-14190 *	US-PATENT-3,947,933	c 20	N76-21276 *	US-PATENT-3,985,454	c 74	N77-10899 *
US-PATENT-3,910,039	c 20	N76-14191 *	US-PATENT-3,948,102	c 33	N76-21390 *	US-PATENT-3,987,630	c 37	N77-12402 *
US-PATENT-3,910,257	c 52	N76-14757 *	US-PATENT-3,948,470	c 20	N76-21275 *	US-PATENT-3,988,561	c 37	N77-11397 *
US-PATENT-3,910,307	c 37	N76-14463 *	US-PATENT-3,949,206	c 32	N76-21366 *	US-PATENT-3,988,677	c 32	N77-12240 *
US-PATENT-3,910,533	c 18	N76-14186 *	US-PATENT-3,949,400	c 17	N76-21250 *	US-PATENT-3,988,716	c 60	N77-12721 *
US-PATENT-3,910,814	c 24	N76-14204 *	US-PATENT-3,949,404	c 32	N76-21365 *	US-PATENT-3,988,729	c 32	N77-12239 *
US-PATENT-3,911,260	c 35	N76-14431 *	US-PATENT-3,950,729	c 60	N76-21914 *	US-PATENT-3,988,933	c 35	N77-19385 *
US-PATENT-3,911,330	c 33	N76-14373 *	US-PATENT-3,951,129	c 44	N76-22657 *	US-PATENT-3,989,136	c 37	N77-19457 *
US-PATENT-3,912,540	c 44	N76-14600 *	US-PATENT-3,952,083	c 27	N76-22376 *	US-PATENT-3,989,206	c 09	N77-19076 *
US-PATENT-3,912,541	c 44	N76-14601 *	US-PATENT-3,952,590	c 09	N76-23273 *	US-PATENT-3,989,541	c 44	N77-19571 *
US-PATENT-3,912,999	c 44	N76-18643 *	US-PATENT-3,952,971	c 02	N76-22154 *	US-PATENT-3,989,602	c 24	N77-19171 *
US-PATENT-3,914,950	c 31	N76-14284 *	US-PATENT-3,952,976	c 37	N76-22540 *	US-PATENT-3,990,049	c 60	N77-19760 *
US-PATENT-3,914,969	c 37	N76-14461 *	US-PATENT-3,952,980	c 19	N76-22284 *	US-PATENT-3,990,860	c 27	N77-13217 *
US-PATENT-3,914,991	c 35	N76-14430 *	US-PATENT-3,952,998	c 20	N76-22296 *	US-PATENT-3,990,997	c 37	N77-13418 *
US-PATENT-3,914,997	c 35	N76-14429 *	US-PATENT-3,953,038	c 37	N76-22541 *	US-PATENT-3,994,128	c 07	N77-14025 *
US-PATENT-3,915,012	c 54	N76-14804 *	US-PATENT-3,953,343	c 24	N76-22309 *	US-PATENT-3,995,324	c 52	N77-14735 *
US-PATENT-3,915,148	c 44	N76-14602 *	US-PATENT-3,953,646	c 27	N76-22377 *	US-PATENT-3,995,476	c 35	N77-14407 *
US-PATENT-3,915,416	c 15	N76-14158 *	US-PATENT-3,953,674	c 17	N76-22245 *	US-PATENT-3,995,522	c 37	N77-14478 *
US-PATENT-3,915,482	c 37	N76-14460 *	US-PATENT-3,953,734	c 25	N76-22232 *	US-PATENT-3,995,621	c 52	N77-14736 *
US-PATENT-3,915,572	c 36	N76-14447 *	US-PATENT-3,953,792	c 35	N76-22509 *	US-PATENT-3,995,644	c 52	N77-14738 *
US-PATENT-3,916,060	c 27	N76-15310 *	US-PATENT-3,955,034	c 27	N76-23426 *	US-PATENT-3,995,789	c 37	N77-14479 *
US-PATENT-3,916,084	c 33	N76-14371 *	US-PATENT-3,955,941	c 44	N76-29700 *	US-PATENT-3,995,877	c 37	N77-14477 *
US-PATENT-3,916,187	c 35	N76-15431 *	US-PATENT-3,956,032	c 76	N76-25049 *	US-PATENT-3,995,960	c 35	N77-14411 *
US-PATENT-3,916,316	c 32	N76-14321 *	US-PATENT-3,956,050	c 37	N76-24575 *	US-PATENT-3,996,064	c 44	N77-14581 *
US-PATENT-3,916,380	c 60	N76-14818 *	US-PATENT-3,956,233	c 27	N76-24405 *	US-PATENT-3,996,067	c 44	N77-14580 *
US-PATENT-3,916,761	c 75	N76-14931 *	US-PATENT-3,956,833	c 09	N76-24280 *	US-PATENT-3,996,070	c 35	N77-14409 *
US-PATENT-3,919,014	c 24	N76-14203 *	US-PATENT-3,956,919	c 35	N76-24523 *	US-PATENT-3,996,455	c 60	N77-14751 *
US-PATENT-3,919,710	c 33	N76-14372 *	US-PATENT-3,956,932	c 35	N76-24524 *	US-PATENT-3,996,462	c 33	N77-14335 *
US-PATENT-3,920,339	c 27	N76-14264 *	US-PATENT-3,957,030	c 44	N76-23675 *	US-PATENT-3,996,464	c 35	N77-14406 *
US-PATENT-3,920,413	c 44	N76-14595 *	US-PATENT-3,957,037	c 35	N76-24525 *	US-PATENT-3,996,468	c 35	N77-14408 *
US-PATENT-3,920,416	c 44	N76-18642 *	US-PATENT-3,957,044	c 54	N76-24900 *	US-PATENT-3,996,471	c 52	N77-14737 *
US-PATENT-3,922,930	c 37	N76-15457 *	US-PATENT-3,957,104	c 37	N76-23570 *	US-PATENT-3,996,506	c 33	N77-14333 *
US-PATENT-3,923,166	c 37	N76-15460 *	US-PATENT-3,957,675	c 24	N76-24363 *	US-PATENT-3,996,532	c 32	N77-14292 *
US-PATENT-3,924,068	c 32	N76-16249 *	US-PATENT-3,958,188	c 36	N76-24553 *	US-PATENT-3,997,848	c 33	N77-14334 *
US-PATENT-3,924,137	c 72	N76-15860 *	US-PATENT-3,958,238	c 60	N76-23850 *	US-PATENT-3,999,886	c 05	N77-17029 *
US-PATENT-3,924,164	c 33	N76-15373 *	US-PATENT-3,958,553	c 44	N76-24696 *	US-PATENT-4,049,930	c 33	N78-10375 *
US-PATENT-3,924,176	c 35	N76-16390 *	US-PATENT-3,961,997	c 44	N76-28635 *	US-PATENT-4,356,157	c 25	N83-33977 *
US-PATENT-3,924,183	c 33	N76-16331 *	US-PATENT-3,964,306	c 34	N76-27517 *	US-PATENT-4,359,503	c 24	N83-33950 *
US-PATENT-3,924,200	c 35	N76-15436 *	US-PATENT-3,964,319	c 07	N76-27232 *	US-PATENT-4,000,682	c 20	N77-17143 *
US-PATENT-3,924,237	c 32	N76-15330 *	US-PATENT-3,964,813	c 37	N76-27567 *	US-PATENT-4,000,929	c 37	N77-17464 *
US-PATENT-3,924,239	c 35	N76-15435 *	US-PATENT-3,964,902	c 34	N76-27515 *	US-PATENT-4,001,552	c 38	N77-17495 *
US-PATENT-3,924,267	c 35	N76-16391 *	US-PATENT-3,964,928	c 44	N76-27664 *	US-PATENT-4,001,602	c 33	N77-17354 *
US-PATENT-3,924,444	c 35	N76-15432 *	US-PATENT-3,965,096	c 27	N76-32315 *	US-PATENT-4,003,004	c 33	N77-17351 *
US-PATENT-3,925,104	c 35	N76-15434 *	US-PATENT-3,965,354	c 33	N76-27473 *	US-PATENT-4,003,084	c 35	N77-17426 *
US-PATENT-3,925,312	c 23	N76-15268 *	US-PATENT-3,965,475	c 33	N76-27472 *	US-PATENT-4,003,257	c 23	N77-17151 *
US-PATENT-3,926,482	c 37	N76-15461 *	US-PATENT-3,966,499	c 44	N76-31666 *	US-PATENT-4,004,292	c 74	N77-18893 *
US-PATENT-3,926,567	c 27	N76-15311 *	US-PATENT-3,966,547	c 25	N76-27383 *	US-PATENT-4,005,574	c 07	N77-17059 *
US-PATENT-3,927,227	c 12	N76-15189 *	US-PATENT-3,967,091	c 37	N76-27568 *	US-PATENT-4,006,631	c 04	N77-19056 *
US-PATENT-3,927,324	c 35	N76-15433 *	US-PATENT-3,971,230	c 37	N76-29590 *	US-PATENT-4,006,999	c 24	N77-19170 *
US-PATENT-3,927,408	c 32	N76-15329 *	US-PATENT-3,971,256	c 91	N76-30131 *	US-PATENT-4,007,430	c 36	N77-19416 *
US-PATENT-3,928,708	c 27	N76-16230 *	US-PATENT-3,971,362	c 52	N76-29894 *	US-PATENT-4,007,434	c 32	N77-18307 *
US-PATENT-3,929,119	c 75	N76-17951 *	US-PATENT-3,971,363	c 52	N76-29895 *	US-PATENT-4,007,601	c 34	N77-19353 *
US-PATENT-3,929,305	c 34	N76-17317 *	US-PATENT-3,971,364	c 52	N76-29896 *	US-PATENT-4,007,623	c 35	N77-18417 *



US-PATENT-4,007,891	c 07	N77-18154 *	US-PATENT-4,046,012	c 35	N77-32456 *	US-PATENT-4,078,290	c 37	N78-24544 *
US-PATENT-4,008,348	c 34	N77-18382 *	US-PATENT-4,046,190	c 34	N77-32413 *	US-PATENT-4,078,378	c 37	N78-24545 *
US-PATENT-4,008,407	c 73	N77-18891 *	US-PATENT-4,046,262	c 54	N77-32721 *	US-PATENT-4,079,268	c 32	N78-24391 *
US-PATENT-4,010,455	c 37	N77-19458 *	US-PATENT-4,046,434	c 37	N77-32500 *	US-PATENT-4,080,901	c 20	N78-24275 *
US-PATENT-4,010,455	c 37	N78-31426 *	US-PATENT-4,046,435	c 37	N77-32501 *	US-PATENT-4,081,250	c 44	N78-31527 *
US-PATENT-4,011,719	c 20	N77-20162 *	US-PATENT-4,046,462	c 44	N77-32583 *	US-PATENT-4,082,001	c 35	N78-24515 *
US-PATENT-4,011,756	c 35	N77-20400 *	US-PATENT-4,046,529	c 54	N77-32722 *	US-PATENT-4,082,569	c 44	N78-25527 *
US-PATENT-4,011,854	c 35	N77-20401 *	US-PATENT-4,046,560	c 26	N77-32280 *	US-PATENT-4,083,097	c 44	N78-25528 *
US-PATENT-4,012,018	c 35	N77-20399 *	US-PATENT-4,046,617	c 76	N77-32919 *	US-PATENT-4,083,181	c 07	N78-25089 *
US-PATENT-4,012,123	c 74	N77-20882 *	US-PATENT-4,046,619	c 27	N77-32308 *	US-PATENT-4,083,380	c 37	N78-25426 *
US-PATENT-4,012,237	c 26	N77-20201 *	US-PATENT-4,047,840	c 37	N78-10468 *	US-PATENT-4,083,520	c 15	N78-25119 *
US-PATENT-4,012,696	c 32	N77-20289 *	US-PATENT-4,051,558	c 52	N78-10686 *	US-PATENT-4,083,765	c 35	N78-25391 *
US-PATENT-4,014,745	c 51	N77-22794 *	US-PATENT-4,051,834	c 44	N78-10554 *	US-PATENT-4,084,124	c 44	N78-25531 *
US-PATENT-4,014,798	c 25	N81-17187 *	US-PATENT-4,051,877	c 35	N78-10428 *	US-PATENT-4,084,132	c 33	N78-25319 *
US-PATENT-4,017,959	c 37	N77-23482 *	US-PATENT-4,052,144	c 25	N78-10224 *	US-PATENT-4,084,612	c 34	N78-25351 *
US-PATENT-4,018,080	c 35	N77-22450 *	US-PATENT-4,052,181	c 71	N78-10837 *	US-PATENT-4,084,825	c 07	N78-25090 *
US-PATENT-4,018,085	c 35	N77-22449 *	US-PATENT-4,052,302	c 25	N78-10225 *	US-PATENT-4,084,985	c 44	N78-25529 *
US-PATENT-4,018,092	c 37	N77-22482 *	US-PATENT-4,052,523	c 24	N78-10214 *	US-PATENT-4,085,004	c 73	N78-28913 *
US-PATENT-4,018,409	c 37	N77-23483 *	US-PATENT-4,052,614	c 35	N78-10429 *	US-PATENT-4,085,241	c 44	N78-25530 *
US-PATENT-4,018,423	c 54	N77-21844 *	US-PATENT-4,052,648	c 33	N78-10376 *	US-PATENT-4,085,332	c 25	N78-25148 *
US-PATENT-4,018,532	c 74	N77-22951 *	US-PATENT-4,052,659	c 33	N78-10377 *	US-PATENT-4,087,902	c 33	N78-27326 *
US-PATENT-4,018,533	c 74	N77-22950 *	US-PATENT-4,052,666	c 43	N78-10529 *	US-PATENT-4,087,962	c 34	N78-27357 *
US-PATENT-4,018,649	c 51	N77-25769 *	US-PATENT-4,052,705	c 60	N78-10709 *	US-PATENT-4,087,975	c 44	N78-32542 *
US-PATENT-4,018,971	c 44	N77-22606 *	US-PATENT-4,053,229	c 74	N78-13874 *	US-PATENT-4,088,018	c 37	N78-27424 *
US-PATENT-4,019,179	c 32	N77-21267 *	US-PATENT-4,053,231	c 35	N78-18391 *	US-PATENT-4,088,094	c 51	N78-27733 *
US-PATENT-4,019,868	c 44	N77-22607 *	US-PATENT-4,053,918	c 44	N78-13526 *	US-PATENT-4,088,270	c 07	N78-27121 *
US-PATENT-4,020,632	c 07	N77-23106 *	US-PATENT-4,055,004	c 09	N78-18083 *	US-PATENT-4,088,291	c 37	N78-27425 *
US-PATENT-4,023,266	c 33	N77-26385 *	US-PATENT-4,055,041	c 07	N78-18066 *	US-PATENT-4,088,312	c 37	N78-27423 *
US-PATENT-4,025,327	c 35	N77-24455 *	US-PATENT-4,055,072	c 35	N78-19465 *	US-PATENT-4,088,408	c 74	N78-27904 *
US-PATENT-4,025,783	c 74	N77-26942 *	US-PATENT-4,055,089	c 35	N78-18390 *	US-PATENT-4,088,532	c 25	N78-27226 *
US-PATENT-4,025,866	c 33	N77-24375 *	US-PATENT-4,055,147	c 35	N78-19466 *	US-PATENT-4,088,806	c 24	N78-27180 *
US-PATENT-4,025,875	c 36	N77-25499 *	US-PATENT-4,055,416	c 26	N78-18182 *	US-PATENT-4,088,926	c 75	N78-27913 *
US-PATENT-4,025,876	c 71	N77-26919 *	US-PATENT-4,055,447	c 26	N78-18183 *	US-PATENT-4,088,951	c 35	N78-28411 *
US-PATENT-4,025,891	c 35	N77-24454 *	US-PATENT-4,055,686	c 37	N78-13436 *	US-PATENT-4,088,954	c 35	N78-32397 *
US-PATENT-4,025,950	c 32	N77-24328 *	US-PATENT-4,055,705	c 34	N78-18355 *	US-PATENT-4,088,965	c 36	N78-27402 *
US-PATENT-4,025,964	c 52	N77-25772 *	US-PATENT-4,055,707	c 44	N78-19599 *	US-PATENT-4,088,999	c 44	N78-28594 *
US-PATENT-4,026,527	c 34	N77-24423 *	US-PATENT-4,055,764	c 35	N78-13400 *	US-PATENT-4,089,004	c 32	N80-29539 *
US-PATENT-4,026,655	c 36	N77-25501 *	US-PATENT-4,055,777	c 33	N78-18308 *	US-PATENT-4,089,209	c 35	N78-27384 *
US-PATENT-4,027,212	c 33	N77-26386 *	US-PATENT-4,055,810	c 36	N78-18410 *	US-PATENT-4,089,705	c 44	N78-27515 *
US-PATENT-4,027,265	c 32	N77-24331 *	US-PATENT-4,055,847	c 33	N78-13320 *	US-PATENT-4,090,213	c 44	N80-29835 *
US-PATENT-4,027,273	c 36	N77-25502 *	US-PATENT-4,061,029	c 35	N78-14364 *	US-PATENT-4,091,166	c 27	N78-31233 *
US-PATENT-4,027,494	c 35	N78-12390 *	US-PATENT-4,061,041	c 71	N78-14867 *	US-PATENT-4,091,329	c 33	N78-32339 *
US-PATENT-4,027,524	c 09	N77-27131 *	US-PATENT-4,061,146	c 52	N78-14773 *	US-PATENT-4,091,464	c 54	N78-31735 *
US-PATENT-4,028,939	c 34	N77-27345 *	US-PATENT-4,061,190	c 43	N78-14452 *	US-PATENT-4,091,464	c 54	N79-24651 *
US-PATENT-4,029,470	c 51	N77-27677 *	US-PATENT-4,061,427	c 36	N78-14380 *	US-PATENT-4,091,465	c 54	N78-31736 *
US-PATENT-4,029,500	c 24	N77-27187 *	US-PATENT-4,061,561	c 25	N78-14104 *	US-PATENT-4,091,613	c 44	N78-32539 *
US-PATENT-4,029,838	c 24	N77-27188 *	US-PATENT-4,061,570	c 54	N78-14784 *	US-PATENT-4,091,665	c 09	N78-31129 *
US-PATENT-4,030,047	c 35	N77-27366 *	US-PATENT-4,061,577	c 74	N78-14889 *	US-PATENT-4,091,798	c 44	N78-31526 *
US-PATENT-4,030,348	c 39	N78-10493 *	US-PATENT-4,061,579	c 24	N78-14096 *	US-PATENT-4,091,800	c 44	N78-31525 *
US-PATENT-4,031,389	c 36	N77-26477 *	US-PATENT-4,061,812	c 24	N78-15180 *	US-PATENT-4,092,188	c 28	N78-31255 *
US-PATENT-4,032,089	c 24	N77-28225 *	US-PATENT-4,061,834	c 27	N78-14164 *	US-PATENT-4,092,274	c 27	N78-31232 *
US-PATENT-4,032,089	c 27	N81-14077 *	US-PATENT-4,061,856	c 27	N78-15276 *	US-PATENT-4,092,466	c 27	N78-32256 *
US-PATENT-4,033,119	c 07	N77-28118 *	US-PATENT-4,061,955	c 44	N78-14625 *	US-PATENT-4,092,466	c 27	N80-10358 *
US-PATENT-4,033,133	c 28	N80-10374 *	US-PATENT-4,061,974	c 32	N78-15323 *	US-PATENT-4,092,606	c 33	N78-32338 *
US-PATENT-4,033,182	c 39	N77-28511 *	US-PATENT-4,062,227	c 39	N78-15512 *	US-PATENT-4,092,617	c 33	N78-32340 *
US-PATENT-4,033,286	c 25	N79-28253 *	US-PATENT-4,062,245	c 37	N78-16369 *	US-PATENT-4,092,633	c 54	N78-32720 *
US-PATENT-4,033,316	c 33	N77-28385 *	US-PATENT-4,062,347	c 44	N78-15560 *	US-PATENT-4,092,648	c 32	N78-31321 *
US-PATENT-4,033,334	c 52	N77-28717 *	US-PATENT-4,062,650	c 25	N78-15210 *	US-PATENT-4,092,712	c 33	N78-32341 *
US-PATENT-4,033,349	c 52	N77-28716 *	US-PATENT-4,062,996	c 74	N78-15879 *	US-PATENT-4,092,874	c 37	N78-31426 *
US-PATENT-4,033,479	c 37	N77-28487 *	US-PATENT-4,063,088	c 74	N78-15880 *	US-PATENT-4,093,156	c 05	N78-32086 *
US-PATENT-4,033,503	c 26	N77-29260 *	US-PATENT-4,063,092	c 35	N78-15461 *	US-PATENT-4,093,354	c 73	N78-32848 *
US-PATENT-4,033,504	c 26	N77-28265 *	US-PATENT-4,063,282	c 39	N78-16387 *	US-PATENT-4,093,382	c 38	N78-32447 *
US-PATENT-4,033,705	c 07	N77-27116 *	US-PATENT-4,063,814	c 74	N78-17866 *	US-PATENT-4,093,771	c 27	N78-32260 *
US-PATENT-4,033,882	c 32	N77-28346 *	US-PATENT-4,063,981	c 24	N78-17149 *	US-PATENT-4,093,917	c 35	N78-32396 *
US-PATENT-4,035,037	c 37	N77-28486 *	US-PATENT-4,064,566	c 27	N78-17215 *	US-PATENT-4,094,073	c 35	N78-32395 *
US-PATENT-4,035,062	c 74	N77-28932 *	US-PATENT-4,064,642	c 54	N78-17675 *	US-PATENT-4,094,758	c 26	N78-32229 *
US-PATENT-4,035,065	c 74	N77-28933 *	US-PATENT-4,064,692	c 37	N78-17384 *	US-PATENT-4,094,775	c 52	N80-14687 *
US-PATENT-4,038,705	c 54	N77-30749 *	US-PATENT-4,065,053	c 44	N78-17460 *	US-PATENT-4,094,862	c 27	N78-32261 *
US-PATENT-4,039,489	c 27	N77-31308 *	US-PATENT-4,065,202	c 35	N78-17357 *	US-PATENT-4,094,943	c 27	N78-32262 *
US-PATENT-4,039,946	c 35	N77-30436 *	US-PATENT-4,065,340	c 24	N78-17150 *	US-PATENT-4,095,593	c 54	N78-32721 *
US-PATENT-4,039,000	c 34	N77-30399 *	US-PATENT-4,065,345	c 27	N78-17205 *	US-PATENT-4,096,315	c 74	N78-32854 *
US-PATENT-4,039,347	c 27	N77-30237 *	US-PATENT-4,066,039	c 37	N78-17383 *	US-PATENT-4,097,194	c 07	N78-33101 *
US-PATENT-4,039,754	c 32	N77-30309 *	US-PATENT-4,067,015	c 17	N78-17140 *	US-PATENT-4,098,142	c 37	N79-10422 *
US-PATENT-4,039,925	c 33	N77-30365 *	US-PATENT-4,067,043	c 74	N78-17865 *	US-PATENT-4,099,799	c 37	N79-10418 *
US-PATENT-4,040,041	c 33	N77-31404 *	US-PATENT-4,067,653	c 74	N78-17867 *	US-PATENT-4,100,331	c 44	N79-10513 *
US-PATENT-4,040,750	c 35	N77-31465 *	US-PATENT-4,067,742	c 27	N78-17206 *	US-PATENT-4,100,487	c 33	N79-10337 *
US-PATENT-4,040,867	c 44	N77-31601 *	US-PATENT-4,068,469	c 07	N78-17055 *	US-PATENT-4,100,531	c 32	N79-10263 *
US-PATENT-4,040,940	c 37	N80-14397 *	US-PATENT-4,068,470	c 07	N78-17056 *	US-PATENT-4,101,195	c 89	N79-10969 *
US-PATENT-4,041,233	c 27	N77-30236 *	US-PATENT-4,068,495	c 31	N78-17237 *	US-PATENT-4,101,644	c 25	N79-10162 *
US-PATENT-4,041,391	c 32	N77-30308 *	US-PATENT-4,068,763	c 54	N78-17676 *	US-PATENT-4,101,780	c 35	N79-10389 *
US-PATENT-4,041,697	c 37	N78-10467 *	US-PATENT-4,069,028	c 34	N78-17335 *	US-PATENT-4,101,891	c 35	N79-10391 *
US-PATENT-4,041,910	c 37	N77-31497 *	US-PATENT-4,069,212	c 27	N78-17213 *	US-PATENT-4,101,961	c 52	N79-10724 *
US-PATENT-4,042,926	c 32	N77-31350 *	US-PATENT-4,069,478	c 60	N78-17691 *	US-PATENT-4,102,580	c 74	N79-11865 *
US-PATENT-4,043,668	c 35	N84-33766 *	US-PATENT-4,069,661	c 07	N78-18067 *	US-PATENT-4,103,550	c 31	N79-11246 *
US-PATENT-4,043,674	c 36	N77-32478 *	US-PATENT-4,070,574	c 74	N78-18905 *	US-PATENT-4,103,619	c 28	N79-11231 *
US-PATENT-4,044,753	c 44	N77-32582 *	US-PATENT-4,072,532	c 27	N78-19302 *	US-PATENT-4,103,712	c 37	N79-11402 *
US-PATENT-4,044,821	c 44	N77-32581 *	US-PATENT-4,075,057	c 73	N78-19920 *	US-PATENT-4,104,018	c 25	N79-11151 *
US-PATENT-4,045,063	c 37	N77-32499 *	US-PATENT-4,077,231	c 31	N78-25256 *	US-PATENT-4,104,084	c 44	N79-11467 *
US-PATENT-4,045,149	c 07	N77-32148 *	US-PATENT-4,077,678	c 44	N78-24608 *	US-PATENT-4,104,091	c 44	N79-11468 *
US-PATENT-4,045,247	c 35	N77-32454 *	US-PATENT-4,077,788	c 28	N78-24365 *	US-PATENT-4,104,134	c 44	N79-11469 *
US-PATENT-4,045,255	c 26	N77-32279 *	US-PATENT-4,077,788	c 28	N81-14103 *	US-PATENT-4,104,134	c 44	N80-16452 *
US-PATENT-4,045,315	c 44	N77-32580 *	US-PATENT-4,077,813	c 26	N78-24333 *	US-PATENT-4,104,873	c 37	N79-11403 *
US-PATENT-4,045,359	c 25	N77-32255 *	US-PATENT-4,077,818	c 44	N78-24609 *	US-PATENT-4,105,261	c 37	N79-11404 *
US-PATENT-4,045,728	c 35	N77-32455 *	US-PATENT-4,077,921	c 24	N78-24290 *	US-PATENT-4,105,517	c 44	N79-11470 *
US-PATENT-4,045,792	c 60	N77-32731 *	US-PATENT-4,078,110	c 34	N78-25350 *	US-PATENT-4,105,966	c 33	N79-11315 *
US-PATENT-4,045,795	c 32	N77-32342 *	US-PATENT-4,078,175	c 76	N78-24950 *	US-PATENT-4,106,218	c 74	N79-13855 *

US-PATENT-4,106,587	c 71	N79-14871 *	US-PATENT-4,139,862	c 32	N79-20297 *	US-PATENT-4,177,325	c 44	N80-16452 *
US-PATENT-4,106,687	c 37	N79-13364 *	US-PATENT-4,140,972	c 32	N79-20296 *	US-PATENT-4,177,333	c 25	N80-16116 *
US-PATENT-4,107,363	c 33	N79-12331 *	US-PATENT-4,141,219	c 34	N79-20335 *	US-PATENT-4,178,100	c 35	N80-18359 *
US-PATENT-4,107,627	c 72	N79-13826 *	US-PATENT-4,141,224	c 34	N79-20336 *	US-PATENT-4,180,648	c 27	N80-16158 *
US-PATENT-4,107,919	c 34	N79-13288 *	US-PATENT-4,141,259	c 37	N79-20377 *	US-PATENT-4,181,589	c 51	N80-16715 *
US-PATENT-4,108,241	c 34	N79-13289 *	US-PATENT-4,142,101	c 74	N79-20857 *	US-PATENT-4,182,158	c 35	N80-18358 *
US-PATENT-4,109,213	c 33	N79-22373 *	US-PATENT-4,142,119	c 33	N79-20314 *	US-PATENT-4,183,217	c 20	N80-18097 *
US-PATENT-4,109,644	c 52	N79-18580 *	US-PATENT-4,143,314	c 20	N79-20179 *	US-PATENT-4,184,072	c 44	N80-18552 *
US-PATENT-4,110,683	c 33	N79-18193 *	US-PATENT-4,145,058	c 37	N79-22475 *	US-PATENT-4,184,111	c 44	N80-18551 *
US-PATENT-4,110,703	c 36	N79-18307 *	US-PATENT-4,145,255	c 25	N79-22235 *	US-PATENT-4,184,149	c 06	N80-18036 *
US-PATENT-4,111,041	c 35	N79-14345 *	US-PATENT-4,145,524	c 27	N79-22300 *	US-PATENT-4,184,155	c 43	N80-18498 *
US-PATENT-4,111,058	c 35	N79-14347 *	US-PATENT-4,145,933	c 39	N79-22537 *	US-PATENT-4,184,327	c 07	N80-18039 *
US-PATENT-4,111,068	c 37	N79-14382 *	US-PATENT-4,146,180	c 37	N79-22474 *	US-PATENT-4,184,368	c 48	N80-18667 *
US-PATENT-4,111,184	c 44	N79-14526 *	US-PATENT-4,146,367	c 25	N81-33246 *	US-PATENT-4,184,472	c 76	N80-18951 *
US-PATENT-4,111,718	c 35	N79-14346 *	US-PATENT-4,146,409	c 26	N79-22271 *	US-PATENT-4,184,491	c 52	N80-18690 *
US-PATENT-4,111,729	c 28	N79-14228 *	US-PATENT-4,148,031	c 32	N79-24210 *	US-PATENT-4,184,609	c 37	N80-18393 *
US-PATENT-4,111,775	c 76	N79-14906 *	US-PATENT-4,148,295	c 44	N79-23481 *	US-PATENT-4,184,903	c 44	N80-18550 *
US-PATENT-4,111,851	c 24	N79-14156 *	US-PATENT-4,148,375	c 46	N79-22679 *	US-PATENT-4,185,164	c 33	N80-18286 *
US-PATENT-4,112,357	c 33	N79-14305 *	US-PATENT-4,148,452	c 08	N79-23097 *	US-PATENT-4,185,493	c 35	N80-18357 *
US-PATENT-4,112,497	c 32	N79-14267 *	US-PATENT-4,148,962	c 24	N79-24062 *	US-PATENT-4,186,347	c 32	N80-18253 *
US-PATENT-4,112,875	c 44	N78-33526 *	US-PATENT-4,149,034	c 71	N79-23753 *	US-PATENT-4,186,749	c 52	N80-18691 *
US-PATENT-4,116,131	c 20	N78-32179 *	US-PATENT-4,149,233	c 33	N79-24257 *	US-PATENT-4,187,394	c 32	N80-18252 *
US-PATENT-4,117,669	c 07	N79-10057 *	US-PATENT-4,149,278	c 54	N79-24652 *	US-PATENT-4,187,416	c 33	N80-18285 *
US-PATENT-4,117,731	c 35	N79-10390 *	US-PATENT-4,149,423	c 32	N79-24203 *	US-PATENT-4,187,470	c 36	N80-18372 *
US-PATENT-4,117,749	c 37	N79-10419 *	US-PATENT-4,149,521	c 44	N79-24433 *	US-PATENT-4,187,568	c 33	N80-18287 *
US-PATENT-4,117,881	c 51	N79-10694 *	US-PATENT-4,149,665	c 44	N79-24431 *	US-PATENT-4,188,306	c 31	N80-18231 *
US-PATENT-4,118,014	c 37	N79-10420 *	US-PATENT-4,149,817	c 44	N79-24432 *	US-PATENT-4,188,823	c 02	N80-20224 *
US-PATENT-4,118,315	c 51	N79-10693 *	US-PATENT-4,149,938	c 25	N79-24073 *	US-PATENT-4,189,234	c 74	N80-21138 *
US-PATENT-4,118,427	c 27	N80-32514 *	US-PATENT-4,150,425	c 33	N79-24254 *	US-PATENT-4,189,675	c 32	N80-20448 *
US-PATENT-4,118,620	c 37	N79-10421 *	US-PATENT-4,151,086	c 34	N79-24285 *	US-PATENT-4,189,914	c 07	N81-29129 *
US-PATENT-4,118,665	c 33	N79-10338 *	US-PATENT-4,151,456	c 33	N79-23345 *	US-PATENT-4,190,060	c 52	N81-29763 *
US-PATENT-4,118,666	c 32	N79-10262 *	US-PATENT-4,151,612	c 54	N79-24651 *	US-PATENT-4,190,626	c 24	N81-29163 *
US-PATENT-4,118,671	c 33	N79-10339 *	US-PATENT-4,151,800	c 24	N79-25142 *	US-PATENT-4,191,159	c 37	N80-29703 *
US-PATENT-4,118,701	c 32	N79-10264 *	US-PATENT-4,152,194	c 76	N79-23798 *	US-PATENT-4,191,505	c 44	N80-21828 *
US-PATENT-4,119,581	c 27	N81-14076 *	US-PATENT-4,153,134	c 46	N79-23555 *	US-PATENT-4,191,893	c 44	N80-29834 *
US-PATENT-4,119,926	c 33	N79-11313 *	US-PATENT-4,153,476	c 44	N79-25482 *	US-PATENT-4,192,290	c 44	N80-20810 *
US-PATENT-4,119,964	c 32	N79-11265 *	US-PATENT-4,153,818	c 32	N79-23310 *	US-PATENT-4,192,910	c 33	N80-20487 *
US-PATENT-4,119,972	c 32	N79-11264 *	US-PATENT-4,154,084	c 43	N79-25443 *	US-PATENT-4,192,910	c 44	N81-29524 *
US-PATENT-4,119,996	c 33	N79-12321 *	US-PATENT-4,154,228	c 52	N79-27836 *	US-PATENT-4,192,994	c 74	N80-21140 *
US-PATENT-4,121,965	c 76	N79-11920 *	US-PATENT-4,154,230	c 52	N79-26771 *	US-PATENT-4,193,388	c 44	N80-20808 *
US-PATENT-4,121,995	c 25	N79-11152 *	US-PATENT-4,154,256	c 05	N79-24976 *	US-PATENT-4,193,435	c 37	N80-23653 *
US-PATENT-4,122,214	c 44	N79-11472 *	US-PATENT-4,154,501	c 33	N81-29342 *	US-PATENT-4,193,570	c 35	N80-21719 *
US-PATENT-4,122,334	c 74	N79-12890 *	US-PATENT-4,154,912	c 44	N79-25481 *	US-PATENT-4,193,693	c 35	N80-20563 *
US-PATENT-4,122,383	c 44	N79-12541 *	US-PATENT-4,155,475	c 24	N79-25143 *	US-PATENT-4,193,827	c 28	N80-20402 *
US-PATENT-4,122,454	c 32	N79-13214 *	US-PATENT-4,156,309	c 44	N79-26475 *	US-PATENT-4,193,827	c 28	N81-14103 *
US-PATENT-4,122,518	c 52	N79-12694 *	US-PATENT-4,156,548	c 35	N79-26372 *	US-PATENT-4,194,115	c 25	N80-20334 *
US-PATENT-4,122,712	c 34	N79-12359 *	US-PATENT-4,156,752	c 15	N79-26100 *	US-PATENT-4,195,244	c 35	N80-20559 *
US-PATENT-4,122,725	c 38	N79-14398 *	US-PATENT-4,156,971	c 43	N79-26439 *	US-PATENT-4,195,279	c 35	N80-20560 *
US-PATENT-4,122,816	c 37	N79-11405 *	US-PATENT-4,157,655	c 43	N80-14423 *	US-PATENT-4,195,512	c 43	N80-23711 *
US-PATENT-4,122,833	c 44	N79-11471 *	US-PATENT-4,157,718	c 52	N80-14684 *	US-PATENT-4,195,666	c 37	N80-23654 *
US-PATENT-4,122,991	c 18	N79-11108 *	US-PATENT-4,158,583	c 28	N79-28342 *	US-PATENT-4,196,129	c 27	N80-32515 *
US-PATENT-4,123,355	c 45	N79-12584 *	US-PATENT-4,158,742	c 12	N79-26075 *	US-PATENT-4,196,619	c 46	N80-24906 *
US-PATENT-4,124,180	c 05	N79-12061 *	US-PATENT-4,158,775	c 72	N80-14877 *	US-PATENT-4,196,840	c 37	N80-23655 *
US-PATENT-4,124,330	c 07	N79-14095 *	US-PATENT-4,158,895	c 52	N79-26772 *	US-PATENT-4,197,530	c 33	N80-23559 *
US-PATENT-4,124,732	c 27	N79-12221 *	US-PATENT-4,159,262	c 27	N79-28307 *	US-PATENT-4,198,209	c 28	N80-23471 *
US-PATENT-4,128,814	c 36	N79-14362 *	US-PATENT-4,159,366	c 44	N79-26474 *	US-PATENT-4,198,232	c 26	N80-23419 *
US-PATENT-4,129,357	c 74	N79-14891 *	US-PATENT-4,159,634	c 37	N79-28550 *	US-PATENT-4,198,788	c 74	N80-24149 *
US-PATENT-4,130,032	c 37	N79-14383 *	US-PATENT-4,160,254	c 33	N79-28416 *	US-PATENT-4,198,792	c 25	N80-23383 *
US-PATENT-4,130,112	c 52	N79-14751 *	US-PATENT-4,160,508	c 37	N79-28551 *	US-PATENT-4,198,988	c 52	N80-23969 *
US-PATENT-4,130,471	c 25	N79-14169 *	US-PATENT-4,160,601	c 35	N79-28527 *	US-PATENT-4,199,448	c 27	N80-23452 *
US-PATENT-4,130,490	c 33	N79-15245 *	US-PATENT-4,161,661	c 33	N79-28415 *	US-PATENT-4,199,650	c 27	N80-24437 *
US-PATENT-4,130,795	c 35	N79-14349 *	US-PATENT-4,161,731	c 31	N79-28370 *	US-PATENT-4,199,764	c 32	N80-23524 *
US-PATENT-4,131,336	c 44	N79-14529 *	US-PATENT-4,161,747	c 37	N79-28549 *	US-PATENT-4,199,937	c 34	N80-24573 *
US-PATENT-4,131,459	c 27	N79-14213 *	US-PATENT-4,162,169	c 24	N79-31347 *	US-PATENT-4,199,937	c 44	N81-24519 *
US-PATENT-4,131,486	c 44	N79-14528 *	US-PATENT-4,162,701	c 34	N79-31523 *	US-PATENT-4,200,721	c 27	N80-24438 *
US-PATENT-4,132,068	c 07	N79-14097 *	US-PATENT-4,162,928	c 44	N79-31753 *	US-PATENT-4,201,468	c 32	N80-24510 *
US-PATENT-4,132,069	c 07	N79-14096 *	US-PATENT-4,163,678	c 44	N79-31752 *	US-PATENT-4,203,723	c 27	N80-26446 *
US-PATENT-4,132,130	c 44	N79-14527 *	US-PATENT-4,164,079	c 09	N79-31228 *	US-PATENT-4,204,037	c 51	N80-27067 *
US-PATENT-4,132,375	c 08	N79-14108 *	US-PATENT-4,164,718	c 32	N80-14281 *	US-PATENT-4,204,154	c 33	N80-26599 *
US-PATENT-4,132,594	c 52	N79-14749 *	US-PATENT-4,165,460	c 43	N79-31706 *	US-PATENT-4,204,402	c 07	N80-26298 *
US-PATENT-4,132,599	c 52	N79-14750 *	US-PATENT-4,166,170	c 27	N79-33316 *	US-PATENT-4,204,544	c 52	N80-27072 *
US-PATENT-4,132,829	c 27	N79-14214 *	US-PATENT-4,166,170	c 27	N81-14078 *	US-PATENT-4,204,899	c 24	N80-26388 *
US-PATENT-4,132,940	c 35	N79-14348 *	US-PATENT-4,166,959	c 74	N79-34011 *	US-PATENT-4,205,229	c 35	N80-26635 *
US-PATENT-4,132,989	c 32	N79-14268 *	US-PATENT-4,167,111	c 46	N80-10709 *	US-PATENT-4,206,383	c 72	N80-27163 *
US-PATENT-4,133,697	c 44	N79-17314 *	US-PATENT-4,168,287	c 27	N80-10358 *	US-PATENT-4,206,713	c 31	N81-15154 *
US-PATENT-4,133,697	c 44	N80-14474 *	US-PATENT-4,168,483	c 39	N80-10507 *	US-PATENT-4,206,970	c 74	N80-27185 *
US-PATENT-4,133,941	c 44	N79-17313 *	US-PATENT-4,168,706	c 54	N80-10799 *	US-PATENT-4,207,024	c 37	N80-26658 *
US-PATENT-4,133,941	c 25	N82-21268 *	US-PATENT-4,168,718	c 20	N80-10278 *	US-PATENT-4,207,024	c 37	N82-19540 *
US-PATENT-4,134,447	c 31	N79-17029 *	US-PATENT-4,168,939	c 05	N80-14107 *	US-PATENT-4,209,393	c 45	N82-11634 *
US-PATENT-4,134,683	c 43	N79-17288 *	US-PATENT-4,169,129	c 37	N80-10494 *	US-PATENT-4,209,561	c 24	N81-13999 *
US-PATENT-4,134,744	c 35	N79-17192 *	US-PATENT-4,170,776	c 46	N80-14603 *	US-PATENT-4,210,278	c 31	N80-32583 *
US-PATENT-4,134,786	c 85	N79-17747 *	US-PATENT-4,170,987	c 52	N81-27783 *	US-PATENT-4,210,401	c 35	N80-28687 *
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US-PATENT-4,350,574	c 44	N83-10494 *	US-PATENT-4,393,777	c 37	N84-12491 *	US-PATENT-4,429,537	c 37	N84-22958 *
US-PATENT-4,351,022	c 33	N83-10345 *	US-PATENT-4,394,610	c 33	N83-31953 *	US-PATENT-4,430,360	c 37	N84-22957 *
US-PATENT-4,355,311	c 32	N83-31918 *	US-PATENT-4,394,726	c 60	N83-32342 *	US-PATENT-4,430,673	c 74	N84-23247 *
US-PATENT-4,355,870	c 74	N83-13978 *	US-PATENT-4,394,819	c 35	N83-32026 *	US-PATENT-4,431,306	c 35	N84-22931 *
US-PATENT-4,355,896	c 47	N83-32232 *	US-PATENT-4,395,123	c 74	N83-32577 *	US-PATENT-4,431,333	c 18	N84-22605 *
US-PATENT-4,357,402	c 25	N83-13188 *	US-PATENT-4,395,503	c 27	N83-34043 *	US-PATENT-4,431,761	c 27	N84-22747 *
US-PATENT-4,358,358	c 25	N83-13187 *	US-PATENT-4,395,511	c 27	N84-14324 *	US-PATENT-4,431,792	c 27	N84-22746 *
US-PATENT-4,358,480	c 24	N83-13172 *	US-PATENT-4,395,540	c 27	N84-22746 *	US-PATENT-4,432,853	c 52	N84-23095 *
US-PATENT-4,358,486	c 24	N83-13171 *	US-PATENT-4,395,540	c 27	N85-20123 *	US-PATENT-4,433,115	c 27	N84-22745 *
US-PATENT-4,358,732	c 33	N83-18996 *	US-PATENT-4,395,557	c 27	N83-31854 *	US-PATENT-4,433,276	c 33	N84-22885 *
US-PATENT-4,358,846	c 32	N83-13323 *	US-PATENT-4,395,557	c 27	N84-22745 *	US-PATENT-4,433,439	c 54	N84-23113 *
US-PATENT-4,360,325	c 44	N83-14693 *	US-PATENT-4,395,557	c 27	N85-21347 *	US-PATENT-4,433,544	c 44	N84-23018 *
US-PATENT-4,360,701	c 44	N83-14692 *	US-PATENT-4,395,656	c 33	N83-31952 *	US-PATENT-4,433,672	c 44	N84-28203 *
US-PATENT-4,362,361	c 74	N83-17305 *	US-PATENT-4,396,918	c 04	N84-27713 *	US-PATENT-4,434,106	c 27	N84-22744 *
US-PATENT-4,362,769	c 27	N83-34039 *	US-PATENT-4,397,716	c 44	N83-34449 *	US-PATENT-4,434,189	c 36	N84-22944 *
US-PATENT-4,363,188	c 51	N83-17045 *	US-PATENT-4,398,021	c 27	N83-34041 *	US-PATENT-4,434,490	c 36	N84-22943 *
US-PATENT-4,363,237	c 71	N83-17235 *	US-PATENT-4,398,021	c 27	N85-20124 *	US-PATENT-4,434,659	c 35	N84-22928 *
US-PATENT-4,363,242	c 33	N83-16626 *	US-PATENT-4,398,129	c 33	N83-34189 *	US-PATENT-4,435,642	c 35	N84-28016 *
US-PATENT-4,366,680	c 31	N83-31897 *	US-PATENT-4,398,412	c 35	N84-28018 *	US-PATENT-4,435,781	c 60	N84-28491 *
US-PATENT-4,370,750	c 34	N83-19015 *	US-PATENT-4,398,667	c 71	N84-14873 *	US-PATENT-4,437,069	c 33	N84-22887 *
US-PATENT-4,371,301	c 37	N83-19091 *	US-PATENT-4,398,925	c 71	N83-35781 *	US-PATENT-4,437,923	c 35	N84-22930 *
US-PATENT-4,371,596	c 44	N83-32176 *	US-PATENT-4,399,415	c 36	N83-35350 *	US-PATENT-4,437,961	c 33	N84-22884 *
US-PATENT-4,371,873	c 32	N83-19968 *	US-PATENT-4,399,515	c 35	N84-14491 *	US-PATENT-4,437,962	c 24	N84-22695 *
US-PATENT-4,371,946	c 32	N83-18975 *	US-PATENT-4,400,191	c 31	N83-35176 *	US-PATENT-4,437,962	c 24	N85-21287 *
US-PATENT-4,372,110	c 07	N83-33884 *	US-PATENT-4,400,642	c 76	N83-34796 *	US-PATENT-4,439,301	c 44	N84-23019 *
US-PATENT-4,372,158	c 44	N83-21503 *	US-PATENT-4,400,657	c 33	N83-34190 *	US-PATENT-4,439,465	c 26	N84-22734 *
US-PATENT-4,372,159	c 44	N83-21504 *	US-PATENT-4,401,505	c 76	N83-35888 *	US-PATENT-4,439,718	c 33	N84-22886 *
US-PATENT-4,372,377	c 74	N83-19596 *	US-PATENT-4,401,934	c 33	N83-35227 *	US-PATENT-4,439,766	c 32	N84-22820 *
US-PATENT-4,372,680	c 35	N83-21311 *	US-PATENT-4,401,953	c 33	N83-34191 *	US-PATENT-4,439,968	c 16	N84-22601 *
US-PATENT-4,373,003	c 27	N83-18908 *	US-PATENT-4,402,221	c 71	N83-36846 *	US-PATENT-4,442,716	c 35	N84-22934 *
US-PATENT-4,373,039	c 27	N83-19900 *	US-PATENT-4,402,358	c 34	N83-35307 *	US-PATENT-4,443,321	c 25	N84-22709 *
US-PATENT-4,373,142	c 44	N83-32175 *	US-PATENT-4,402,447	c 35	N83-35338 *	US-PATENT-4,443,701	c 74	N84-28590 *
US-PATENT-4,373,989	c 76	N83-20789 *	US-PATENT-4,402,992	c 31	N83-35177 *	US-PATENT-4,443,724	c 35	N84-28017 *
US-PATENT-4,374,183	c 26	N83-31795 *	US-PATENT-4,404,469	c 74	N84-11920 *	US-PATENT-4,444,368	c 05	N84-22551 *
US-PATENT-4,374,378	c 35	N83-34272 *	US-PATENT-4,404,793	c 07	N83-36029 *	US-PATENT-4,444,464	c 74	N84-23248 *
US-PATENT-4,375,281	c 05	N83-19737 *	US-PATENT-4,405,184	c 37	N84-12492 *	US-PATENT-4,444,972	c 27	N84-22750 *
US-PATENT-4,375,396	c 31	N83-19947 *	US-PATENT-4,405,197	c 74	N84-11921 *	US-PATENT-4,444,979	c 27	N84-22749 *
US-PATENT-4,375,536	c 27	N83-34040 *	US-PATENT-4,406,256	c 37	N83-36483 *	US-PATENT-4,445,118	c 04	N84-22546 *
US-PATENT-4,375,674	c 39	N83-20280 *	US-PATENT-4,406,797	c 25	N83-36118 *	US-PATENT-4,445,378	c 35	N84-22933 *
US-PATENT-4,376,637	c 35	N84-17555 *	US-PATENT-4,406,989	c 33	N83-36356 *	US-PATENT-4,446,199	c 26	N84-33555 *
US-PATENT-4,376,872	c 44	N83-32177 *	US-PATENT-4,407,001	c 33	N83-36355 *	US-PATENT-4,446,396	c 35	N84-22932 *
US-PATENT-4,377,089	c 35	N83-21312 *	US-PATENT-4,407,165	c 37	N83-36482 *	US-PATENT-4,446,459	c 60	N84-28492 *
US-PATENT-4,377,169	c 52	N82-21785 *	US-PATENT-4,407,468	c 01	N83-35992 *	US-PATENT-4,446,556	c 36	N84-28065 *
US-PATENT-4,377,266	c 07	N83-20944 *	US-PATENT-4,407,563	c 74	N83-36898 *	US-PATENT-4,446,757	c 37	N84-28084 *
US-PATENT-4,377,343	c 74	N83-21949 *	US-PATENT-4,407,589	c 33	N83-36357 *	US-PATENT-4,447,251	c 71	N84-28568 *
US-PATENT-4,377,371	c 18	N83-20996 *	US-PATENT-4,407,686	c 35	N84-12443 *	US-PATENT-4,447,943	c 52	N84-28389 *
US-PATENT-4,377,371	c 37	N84-22957 *	US-PATENT-4,408,597	c 52	N84-11744 *	US-PATENT-4,448,408	c 37	N84-28083 *
US-PATENT-4,377,949	c 45	N83-25217 *	US-PATENT-4,408,658	c 27	N83-36220 *	US-PATENT-4,449,370	c 37	N84-33808 *
US-PATENT-4,378,209	c 35	N83-24828 *	US-PATENT-4,410,189	c 37	N84-11497 *	US-PATENT-4,449,400	c 47	N84-28292 *
US-PATENT-4,378,813	c 52	N83-25346 *	US-PATENT-4,410,682	c 24	N84-11213 *	US-PATENT-4,449,514	c 44	N84-28204 *
US-PATENT-4,379,970	c 33	N83-24763 *	US-PATENT-4,411,380	c 24	N84-11214 *	US-PATENT-4,449,894	c 37	N84-28081 *
US-PATENT-4,380,046	c 60	N83-25378 *	US-PATENT-4,411,597	c 07	N84-22560 *	US-PATENT-4,450,268	c 27	N84-27884 *
US-PATENT-4,381,174	c 37	N83-26078 *	US-PATENT-4,411,660	c 54	N84-11758 *	US-PATENT-4,450,447	c 32	N84-27951 *
US-PATENT-4,381,333	c 44	N83-34448 *	US-PATENT-4,412,664	c 02	N84-11136 *	US-PATENT-4,451,017	c 18	N84-27787 *
US-PATENT-4,381,375	c 37	N83-34323 *	US-PATENT-4,413,522	c 35	N84-12445 *	US-PATENT-4,451,496	c 26	N84-27855 *
US-PATENT-4,381,583	c 31	N83-31895 *	US-PATENT-4,413,784	c 34	N84-12406 *	US-PATENT-4,452,088	c 24	N84-27829 *
US-PATENT-4,381,881	c 74	N83-29032 *	US-PATENT-4,414,080	c 25	N84-12262 *	US-PATENT-4,452,142	c 16	N84-27784 *
US-PATENT-4,382,116	c 44	N83-27344 *	US-PATENT-4,414,509	c 35	N84-12444 *	US-PATENT-4,453,163	c 06	N84-27733 *
US-PATENT-4,382,224	c 33	N83-27126 *	US-PATENT-4,414,816	c 07	N84-24577 *	US-PATENT-4,454,611	c 54	N84-28484 *
US-PATENT-4,382,239	c 32	N83-27085 *	US-PATENT-4,415,133	c 05	N84-12154 *	US-PATENT-4,454,649	c 44	N84-28205 *
US-PATENT-4,383,171	c 35	N83-27184 *	US-PATENT-4,415,311	c 37	N84-12493 *	US-PATENT-4,454,753	c 09	N84-27749 *
US-PATENT-4,383,533	c 52	N83-27578 *	US-PATENT-4,415,450	c 45	N84-12654 *	US-PATENT-4,455,418	c 27	N84-27885 *
US-PATENT-4,383,785	c 31	N83-27058 *	US-PATENT-4,416,111	c 07	N84-33410 *	US-PATENT-4,455,418	c 25	N85-28982 *
US-PATENT-4,384,578	c 52	N83-27577 *	US-PATENT-4,416,266	c 52	N84-28388 *	US-PATENT-4,455,532	c 72	N84-28575 *
US-PATENT-4,384,823	c 34	N83-27144 *	US-PATENT-4,417,175	c 70	N84-28565 *	US-PATENT-4,455,680	c 32	N84-27952 *
US-PATENT-4,385,043	c 24	N83-25789 *	US-PATENT-4,417,190	c 33	N84-14424 *	US-PATENT-4,456,208	c 27	N84-27886 *
US-PATENT-4,385,113	c 51	N83-27569 *	US-PATENT-4,417,215	c 33	N84-14421 *	US-PATENT-4,456,708	c 51	N84-28361 *
US-PATENT-4,385,949	c 31	N83-34073 *	US-PATENT-4,418,130	c 33	N84-14422 *	US-PATENT-4,458,418	c 37	N84-28085 *
US-PATENT-4,386,157	c 51	N83-28849 *	US-PATENT-4,418,480	c 04	N84-14132 *	US-PATENT-4,458,554	c 37	N84-28082 *
US-PATENT-4,386,750	c 18	N83-28064 *	US-PATENT-4,418,722	c 44	N84-14583 *	US-PATENT-4,459,083	c 02	N84-28732 *
US-PATENT-4,387,513	c 06	N83-33882 *	US-PATENT-4,420,035	c 34	N84-14461 *	US-PATENT-4,459,470	c 27	N84-33589 *
US-PATENT-4,387,935	c 37	N83-32067 *	US-PATENT-4,420,352	c 27	N84-22748 *	US-PATENT-4,459,528	c 33	N84-27975 *
US-PATENT-4,388,171	c 23	N84-16255 *	US-PATENT-4,420,518	c 27	N84-14323 *	US-PATENT-4,459,562	c 33	N84-27974 *
US-PATENT-4,386,346	c 33	N84-16456 *	US-PATENT-4,420,836	c 26	N84-14509 *	US-PATENT-4,462,871	c 76	N84-35112 *
US-PATENT-4,388,502	c 05	N83-27975 *	US-PATENT-4,420,977	c 71	N84-23233 *	US-PATENT-4,463,357	c 46	N85-21846 *
US-PATENT-4,388,542	c 44	N83-28573 *	US-PATENT-4,421,109	c 54	N84-16803 *	US-PATENT-4,463,465	c 03	N84-33394 *
US-PATENT-4,388,585	c 33	N83-28319 *	US-PATENT-4,421,371	c 33	N84-14423 *	US-PATENT-4,463,606	c 71	N85-22105 *
US-PATENT-4,388,585	c 33	N84-33660 *	US-PATENT-4,421,700	c 24	N84-16262 *	US-PATENT-4,464,710	c 33	N84-33663 *
US-PATENT-4,388,965	c 34	N83-28356 *	US-PATENT-4,421,820	c 27	N84-14322 *	US-PATENT-4,466,242	c 20	N85-21256 *
US-PATENT-4,389,504	c 27	N83-28240 *	US-PATENT-4,422,012	c 33	N84-16452 *	US-PATENT-4,466,667	c 35	N84-33768 *
US-PATENT-4,389,504	c 27	N85-21349 *	US-PATENT-4,422,609	c 37	N84-16560 *	US-PATENT-4,469,552	c 76	N84-35113 *
US-PATENT-4,389,849	c 44	N83-28574 *	US-PATENT-4,423,605	c 34	N84-22903 *	US-PATENT-4,469,942	c 35	N84-33767 *
US-PATENT-4,389,904	c 35	N83-29650 *	US-PATENT-4,424,592	c 36	N84-16542 *	US-PATENT-4,469,998	c 33	N84-33661 *

US-PATENT-4,470,293	c 37	N84-33807 *	US-PATENT-4,518,277	c 37	N85-30336 *	US-PATENT-4,572,699	c 37	N87-22976 *
US-PATENT-4,470,403	c 44	N84-34792 *	US-PATENT-4,518,625	c 24	N85-30027 *	US-PATENT-4,573,356	c 71	N88-24241 *
US-PATENT-4,471,357	c 32	N84-34651 *	US-PATENT-4,518,722	c 27	N85-29044 *	US-PATENT-4,578,678	c 04	N86-27270 *
US-PATENT-4,472,473	c 18	N84-33450 *	US-PATENT-4,519,545	c 37	N85-29283 *	US-PATENT-4,578,920	c 37	N86-25789 *
US-PATENT-4,472,716	c 35	N84-33769 *	US-PATENT-4,520,601	c 37	N85-30335 *	US-PATENT-4,579-782	c 24	N86-25416 *
US-PATENT-4,472,728	c 35	N84-33765 *	US-PATENT-4,520,656	c 71	N85-29693 *	US-PATENT-4,579,302	c 18	N86-24729 *
US-PATENT-4,473,259	c 37	N85-20337 *	US-PATENT-4,521,077	c 74	N85-29750 *	US-PATENT-4,579,475	c 37	N86-27630 *
US-PATENT-4,473,674	c 24	N84-34571 *	US-PATENT-4,521,659	c 31	N85-29083 *	US-PATENT-4,580-791	c 37	N86-25790 *
US-PATENT-4,473,792	c 33	N84-33660 *	US-PATENT-4,521,688	c 35	N85-30281 *	US-PATENT-4,582,277	c 16	N86-26352 *
US-PATENT-4,474,062	c 06	N84-34443 *	US-PATENT-4,521,702	c 33	N85-29145 *	US-PATENT-4,582,289	c 37	N87-21333 *
US-PATENT-4,474,180	c 52	N84-34913 *	US-PATENT-4,521,854	c 33	N85-29142 *	US-PATENT-4,582,590	c 25	N86-25428 *
US-PATENT-4,474,471	c 35	N84-34705 *	US-PATENT-4,522,469	c 76	N85-33826 *	US-PATENT-4,583,587	c 34	N86-27593 *
US-PATENT-4,474,975	c 25	N85-21280 *	US-PATENT-4,522,661	c 76	N85-30922 *	US-PATENT-4,583,860	c 74	N86-26190 *
US-PATENT-4,475,063	c 33	N85-21491 *	US-PATENT-4,522,755	c 27	N86-19455 *	US-PATENT-4,584,249	c 44	N86-25874 *
US-PATENT-4,475,385	c 09	N84-34448 *	US-PATENT-4,522,844	c 26	N85-29005 *	US-PATENT-4,584,510	c 08	N86-27288 *
US-PATENT-4,475,527	c 37	N85-21650 *	US-PATENT-4,523,008	c 27	N85-29043 *	US-PATENT-4,584,887	c 35	N86-26595 *
US-PATENT-4,475,921	c 71	N85-22104 *	US-PATENT-4,523,682	c 71	N85-30765 *	US-PATENT-4,585,191	c 20	N86-26368 *
US-PATENT-4,478,879	c 44	N85-20530 *	US-PATENT-4,523,741	c 37	N85-29284 *	US-PATENT-4,585,344	c 35	N86-25753 *
US-PATENT-4,479,053	c 74	N85-22139 *	US-PATENT-4,523,810	c 74	N85-29749 *	US-PATENT-4,586,140	c 06	N86-27280 *
US-PATENT-4,479,386	c 27	N85-20126 *	US-PATENT-4,524,237	c 44	N85-30475 *	US-PATENT-4,586,394	c 35	N87-21304 *
US-PATENT-4,479,560	c 35	N85-20294 *	US-PATENT-4,526,925	c 27	N86-20560 *	US-PATENT-4,586,487	c 44	N86-27706 *
US-PATENT-4,481,570	c 60	N85-21992 *	US-PATENT-4,526,925	c 27	N87-22845 *	US-PATENT-4,587,312	c 27	N86-27450 *
US-PATENT-4,482,778	c 44	N85-21768 *	US-PATENT-4,527,092	c 37	N85-33489 *	US-PATENT-4,587,324	c 23	N86-32525 *
US-PATENT-4,482,779	c 33	N85-21492 *	US-PATENT-4,527,910	c 37	N85-33490 *	US-PATENT-4,587,526	c 37	N86-25791 *
US-PATENT-4,483,512	c 37	N85-20338 *	US-PATENT-4,528,366	c 23	N85-33187 *	US-PATENT-4,588,778	c 27	N86-27451 *
US-PATENT-4,483,639	c 37	N85-21649 *	US-PATENT-4,528,417	c 44	N85-34441 *	US-PATENT-4,588,986	c 32	N86-27513 *
US-PATENT-4,483,817	c 25	N85-21279 *	US-PATENT-4,528,639	c 60	N85-33701 *	US-PATENT-4,591,772	c 37	N86-27629 *
US-PATENT-4,485,151	c 24	N85-21266 *	US-PATENT-4,529,358	c 34	N85-33433 *	US-PATENT-4,591,838	c 25	N86-27431 *
US-PATENT-4,485,151	c 24	N85-35233 *	US-PATENT-4,531,143	c 33	N86-19516 *	US-PATENT-4,593,415	c 54	N86-28618 *
US-PATENT-4,485,670	c 34	N85-21568 *	US-PATENT-4,532,797	c 35	N85-34373 *	US-PATENT-4,594,540	c 31	N86-29055 *
US-PATENT-4,485,671	c 35	N85-20295 *	US-PATENT-4,533,101	c 07	N85-35194 *	US-PATENT-4,594,720	c 36	N86-29204 *
US-PATENT-4,485,992	c 08	N85-19985 *	US-PATENT-4,533,242	c 74	N85-34629 *	US-PATENT-4,594,734	c 54	N86-28620 *
US-PATENT-4,488,155	c 33	N85-21493 *	US-PATENT-4,534,166	c 07	N85-35195 *	US-PATENT-4,595,399	c 35	N86-29174 *
US-PATENT-4,488,335	c 27	N85-20125 *	US-PATENT-4,535,033	c 24	N85-35233 *	US-PATENT-4,595,548	c 27	N86-29039 *
US-PATENT-4,488,663	c 35	N85-21595 *	US-PATENT-4,535,035	c 26	N85-35267 *	US-PATENT-4,596,626	c 76	N86-28760 *
US-PATENT-4,489,027	c 27	N85-20124 *	US-PATENT-4,535,636	c 35	N85-34375 *	US-PATENT-4,598,007	c 24	N86-28131 *
US-PATENT-4,489,239	c 36	N85-21631 *	US-PATENT-4,536,114	c 37	N85-34401 *	US-PATENT-4,598,427	c 54	N86-28619 *
US-PATENT-4,489,243	c 44	N85-21769 *	US-PATENT-4,536,565	c 27	N85-34280 *	US-PATENT-4,598,981	c 54	N86-29507 *
US-PATENT-4,489,264	c 33	N85-22877 *	US-PATENT-4,537,554	c 85	N85-34722 *	US-PATENT-4,599,001	c 74	N86-28732 *
US-PATENT-4,490,117	c 09	N85-19990 *	US-PATENT-4,537,834	c 27	N85-34281 *	US-PATENT-4,599,081	c 74	N86-29650 *
US-PATENT-4,490,229	c 31	N85-20153 *	US-PATENT-4,538,066	c 35	N85-34374 *	US-PATENT-4,600,299	c 74	N86-32266 *
US-PATENT-4,491,427	c 37	N85-21651 *	US-PATENT-4,538,446	c 34	N86-12547 *	US-PATENT-4,600,301	c 35	N86-32697 *
US-PATENT-4,493,021	c 32	N85-21428 *	US-PATENT-4,538,778	c 08	N85-35200 *	US-PATENT-4,600,769	c 27	N86-31272 *
US-PATENT-4,493,211	c 09	N85-21178 *	US-PATENT-4,539,293	c 23	N85-35227 *	US-PATENT-4,600,840	c 72	N86-33127 *
US-PATENT-4,493,553	c 36	N85-21639 *	US-PATENT-4,540,986	c 04	N86-19304 *	US-PATENT-4,602,081	c 27	N86-32568 *
US-PATENT-4,495,044	c 24	N85-21267 *	US-PATENT-4,542,520	c 74	N86-20126 *	US-PATENT-4,602,509	c 35	N86-32695 *
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US-PATENT-4,497,540	c 74	N85-23396 *	US-PATENT-4,543,442	c 76	N86-20150 *	US-PATENT-4,604,844	c 37	N86-32737 *
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US-PATENT-4,497,939	c 27	N85-21351 *	US-PATENT-4,544,068	c 35	N86-20751 *	US-PATENT-4,605,155	c 37	N86-32736 *
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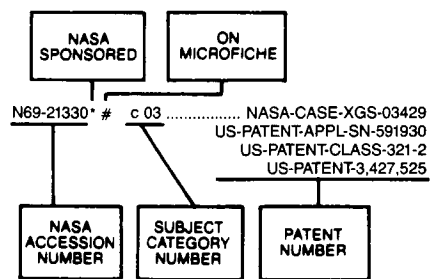


# ACCESSION NUMBER INDEX

## NASA PATENT ABSTRACTS BIBLIOGRAPHY Section 2

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N69-21465* #	c 15	NASA-CASE-XLA-08645 US-PATENT-APPL-SN-635970 US-PATENT-CLASS-62-93 US-PATENT-3,420,069
N69-21466* #	c 12	NASA-CASE-XLE-03512 US-PATENT-APPL-SN-462762 US-PATENT-CLASS-137-81.5 US-PATENT-3,420,253
N69-21467* #	c 09	NASA-CASE-XMS-06949 US-PATENT-APPL-SN-635328 US-PATENT-CLASS-346-44 US-PATENT-3,422,440
N69-21468* #	c 09	NASA-CASE-XNP-05612 US-PATENT-APPL-SN-562934 US-PATENT-CLASS-307-106 US-PATENT-3,422,278
N69-21469* #	c 03	NASA-CASE-XMS-04843 US-PATENT-APPL-SN-545229 US-PATENT-CLASS-137-624.14 US-PATENT-3,421,549
N69-21470* #	c 09	NASA-CASE-XLA-01288 US-PATENT-APPL-SN-460876 US-PATENT-CLASS-339-150 US-PATENT-3,421,134
N69-21471* #	c 15	NASA-CASE-XMS-03537 US-PATENT-APPL-SN-468655 US-PATENT-CLASS-219-121
N69-21472* #	c 15	US-PATENT-3,420,978 NASA-CASE-XGS-02437 US-PATENT-APPL-SN-487344 US-PATENT-CLASS-317-157.5 US-PATENT-3,421,053
N69-21473* #	c 05	NASA-CASE-XAR-01547 US-PATENT-APPL-SN-391343 US-PATENT-CLASS-128-2.08 US-PATENT-3,420,225
N69-21539* #	c 03	NASA-CASE-XGS-01395 US-PATENT-APPL-SN-545535 US-PATENT-CLASS-174-72 US-PATENT-3,422,213
N69-21540* #	c 11	NASA-CASE-XLA-02704 US-PATENT-APPL-SN-469011 US-PATENT-CLASS-73-67.2 US-PATENT-3,421,363
N69-21541* #	c 14	NASA-CASE-XNP-09752 US-PATENT-APPL-SN-640460 US-PATENT-CLASS-317-246 US-PATENT-3,422,324
N69-21542* #	c 09	NASA-CASE-XLE-03778 US-PATENT-APPL-SN-628247 US-PATENT-CLASS-174-18 US-PATENT-3,420,945
N69-21543* #	c 09	NASA-CASE-XGS-04994 US-PATENT-APPL-SN-619907 US-PATENT-CLASS-331-4 US-PATENT-3,421,105
N69-21922* #	c 15	NASA-CASE-XHQ-03903 US-PATENT-APPL-SN-560967 US-PATENT-CLASS-23-208 US-PATENT-3,423,179
N69-21923* #	c 14	NASA-CASE-XNP-07478 US-PATENT-APPL-SN-605097 US-PATENT-CLASS-175-323 US-PATENT-3,421,591
N69-21924* #	c 15	NASA-CASE-XMS-05894-1 US-PATENT-APPL-SN-685766 US-PATENT-CLASS-137-491 US-PATENT-3,421,541
N69-21925* #	c 05	NASA-CASE-XMS-02872 US-PATENT-APPL-SN-422864 US-PATENT-CLASS-128-2.06 US-PATENT-3,420,223
N69-21926* #	c 09	NASA-CASE-XNP-06032 US-PATENT-APPL-SN-590146 US-PATENT-CLASS-324-158 US-PATENT-3,422,354
N69-21927* #	c 09	NASA-CASE-XMS-07846-1 US-PATENT-APPL-SN-694247 US-PATENT-CLASS-339-91 US-PATENT-3,422,390
N69-21928* #	c 08	NASA-CASE-XNP-09785 US-PATENT-APPL-SN-599975 US-PATENT-CLASS-340-172.5 US-PATENT-3,422,403
N69-21929* #	c 25	NASA-CASE-XNP-07481 US-PATENT-APPL-SN-563650 US-PATENT-CLASS-310-11 US-PATENT-3,422,291
N69-23185* #	c 15	NASA-CASE-XNP-05975 US-PATENT-APPL-SN-570097 US-PATENT-CLASS-239-416 US-PATENT-3,421,700
N69-23190* #	c 15	NASA-CASE-NPO-10309 US-PATENT-APPL-SN-574282 US-PATENT-APPL-SN-700985 US-PATENT-CLASS-62-6 US-PATENT-3,421,331
N69-23191* #	c 14	NASA-CASE-XLE-10529 US-PATENT-APPL-SN-603396 US-PATENT-CLASS-317-234 US-PATENT-3,421,056
N69-23192* #	c 05	NASA-CASE-XMS-06761 US-PATENT-APPL-SN-575475 US-PATENT-CLASS-128-283 US-PATENT-3,421,506
N69-24257* #	c 14	NASA-CASE-XMS-04917 US-PATENT-APPL-SN-574283 US-PATENT-CLASS-73-198 US-PATENT-3,425,276
N69-24266* #	c 15	NASA-CASE-XMS-03700
N69-24267* #	c 03	US-PATENT-APPL-SN-617783 US-PATENT-CLASS-314-129 US-PATENT-3,428,847 NASA-CASE-XGS-04531 US-PATENT-APPL-SN-590141 US-PATENT-CLASS-136-89 US-PATENT-3,437,527
N69-24317* #	c 09	NASA-CASE-XGS-04999 US-PATENT-APPL-SN-519395 US-PATENT-CLASS-307-268 US-PATENT-3,426,219
N69-24318* #	c 09	NASA-CASE-XGS-05003 US-PATENT-APPL-SN-576797 US-PATENT-CLASS-317-235 US-PATENT-3,430,115
N69-24319* #	c 15	NASA-CASE-XNP-09227 US-PATENT-APPL-SN-632164 US-PATENT-CLASS-313-44 US-PATENT-3,426,230
N69-24320* #	c 15	NASA-CASE-XGS-03864 US-PATENT-APPL-SN-577114 US-PATENT-CLASS-136-133 US-PATENT-3,427,205
N69-24321* #	c 11	NASA-CASE-XLA-03271 US-PATENT-APPL-SN-482313 US-PATENT-CLASS-350-310 US-PATENT-3,427,097
N69-24322* #	c 15	NASA-CASE-XMS-01108 US-PATENT-APPL-SN-432032 US-PATENT-CLASS-156-242 US-PATENT-3,425,885
N69-24323* #	c 07	NASA-CASE-XGS-02816 US-PATENT-APPL-SN-521998 US-PATENT-CLASS-333-73 US-PATENT-3,437,959
N69-24324* #	c 09	NASA-CASE-XGS-02171 US-PATENT-APPL-SN-590159 US-PATENT-CLASS-325-446 US-PATENT-3,437,935
N69-24329* #	c 09	NASA-CASE-XNP-04183 US-PATENT-APPL-SN-546142 US-PATENT-CLASS-179-100.2 US-PATENT-3,428,761
N69-24330* #	c 09	NASA-CASE-XMS-05307 US-PATENT-APPL-SN-516154 US-PATENT-CLASS-330-29 US-PATENT-3,428,910
N69-24331* #	c 14	NASA-CASE-XNP-03930 US-PATENT-APPL-SN-526665 US-PATENT-CLASS-250-237 US-PATENT-3,435,246
N69-24332* #	c 23	NASA-CASE-XNP-02340 US-PATENT-APPL-SN-439490 US-PATENT-CLASS-350-1 US-PATENT-3,427,089
N69-24333* #	c 09	NASA-CASE-XNP-09225 US-PATENT-APPL-SN-640785 US-PATENT-CLASS-340-172.5 US-PATENT-3,431,559
N69-24334* #	c 07	NASA-CASE-XGS-01110 US-PATENT-APPL-SN-526664 US-PATENT-CLASS-333-8 US-PATENT-3,428,919
N69-25146* #	c 03	NASA-CASE-XGS-04808 US-PATENT-APPL-SN-640781 US-PATENT-CLASS-321-2 US-PATENT-3,437,903
N69-25147* #	c 17	NASA-CASE-XLE-10466 US-PATENT-APPL-SN-644448 US-PATENT-CLASS-219-411 US-PATENT-3,427,435
N69-27422* #	c 09	NASA-CASE-XLA-04980 US-PATENT-APPL-SN-577548 US-PATENT-CLASS-317-234 US-PATENT-3,432,730
N69-27423* #	c 14	NASA-CASE-XAC-0240/7 US-PATENT-APPL-SN-469013 US-PATENT-CLASS-324-43 US-PATENT-3,437,919
N69-27431* #	c 14	NASA-CASE-XMF-01483 US-PATENT-APPL-SN-635325 US-PATENT-CLASS-339-17 US-PATENT-3,430,182

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N69-27432* #	c 14	NASA-CASE-XGS-08266 US-PATENT-APPL-SN-628248 US-PATENT-CLASS-250-203 US-PATENT-3,433,961	US-PATENT-CLASS-339-95 US-PATENT-3,458,851	US-PATENT-CLASS-250-49.5 US-PATENT-3,446,960
N69-27459* #	c 14	NASA-CASE-XMS-05909-1 US-PATENT-APPL-SN-685764 US-PATENT-CLASS-136-213 US-PATENT-3,431,149	N69-39735* # c 15 NASA-CASE-XGS-00963 US-PATENT-APPL-SN-494282 US-PATENT-CLASS-161-182 US-PATENT-3,453,172	N69-39983* # c 03 NASA-CASE-XLE-02083 US-PATENT-APPL-SN-568362 US-PATENT-CLASS-310-11 US-PATENT-3,453,462
N69-27460* #	c 07	NASA-CASE-XGS-05582 US-PATENT-APPL-SN-646424 US-PATENT-CLASS-343-854 US-PATENT-3,438,044	N69-39736* # c 07 NASA-CASE-XNP-04180 US-PATENT-APPL-SN-545228 US-PATENT-CLASS-250-203 US-PATENT-3,448,273	N69-39984* # c 09 NASA-CASE-XLA-08507 US-PATENT-APPL-SN-632154 US-PATENT-CLASS-321-11 US-PATENT-3,434,033
N69-27461* #	c 14	NASA-CASE-XLA-03724 US-PATENT-APPL-SN-568071 US-PATENT-CLASS-350-6 US-PATENT-3,437,394	N69-39785* # c 14 NASA-CASE-XKS-03495 US-PATENT-APPL-SN-559351 US-PATENT-CLASS-324-61 US-PATENT-3,426,272	N69-39986* # c 09 NASA-CASE-XMS-05562-1 US-PATENT-APPL-SN-529609 US-PATENT-CLASS-330-2 US-PATENT-3,434,064
N69-27462* #	c 07	NASA-CASE-XMS-05303 US-PATENT-APPL-SN-617022 US-PATENT-CLASS-333-97 US-PATENT-3,428,923	N69-39786* # c 15 NASA-CASE-XGS-04554 US-PATENT-APPL-SN-584072 US-PATENT-CLASS-29-472.9 US-PATENT-3,447,233	N69-39987* # c 09 NASA-CASE-XMS-05562-1 US-PATENT-APPL-SN-529609 US-PATENT-CLASS-307-265 US-PATENT-3,446,992
N69-27463* #	c 09	NASA-CASE-XGS-03095 US-PATENT-APPL-SN-552344 US-PATENT-CLASS-307-222 US-PATENT-3,437,832	N69-39884* # c 25 NASA-CASE-XLE-00690 US-PATENT-APPL-SN-489442 US-PATENT-CLASS-324-33 US-PATENT-3,447,071	N69-39988* # c 12 NASA-CASE-XLE-02624 US-PATENT-APPL-SN-635327 US-PATENT-CLASS-35-49 US-PATENT-3,429,058
N69-27466* #	c 11	NASA-CASE-XNP-04969 US-PATENT-APPL-SN-604604 US-PATENT-CLASS-248-317 US-PATENT-3,430,909	N69-39885* # c 09 NASA-CASE-XMS-04061-1 US-PATENT-APPL-SN-511564 US-PATENT-CLASS-328-116 US-PATENT-3,456,201	N70-10867* # c 15 NASA-CASE-ERC-10208 US-PATENT-APPL-SN-847596 US-PATENT-CLASS-ERC-10072 US-PATENT-APPL-SN-645572
N69-27483* #	c 15	NASA-CASE-XLA-03105 US-PATENT-APPL-SN-529594 US-PATENT-CLASS-263-48 US-PATENT-3,430,937	N69-39888* # c 10 NASA-CASE-XNP-02713 US-PATENT-APPL-SN-528031 US-PATENT-CLASS-307-252 US-PATENT-3,458,726	N70-11251* # c 06 NASA-CASE-NPO-10863 US-PATENT-APPL-SN-848325 US-PATENT-CLASS-NPO-10447 US-PATENT-APPL-SN-848351
N69-27484* #	c 14	NASA-CASE-XLA-04556 US-PATENT-APPL-SN-607608 US-PATENT-CLASS-250-83 US-PATENT-3,433,953	N69-39889* # c 06 NASA-CASE-XLE-07087 US-PATENT-APPL-SN-619521 US-PATENT-CLASS-313-231 US-PATENT-3,447,015	N70-11252* # c 06 NASA-CASE-NPO-10447 US-PATENT-APPL-SN-848351 US-PATENT-CLASS-MSC-12259-1 US-PATENT-APPL-SN-853763
N69-27485* #	c 14	NASA-CASE-XGS-02401 US-PATENT-APPL-SN-502740 US-PATENT-CLASS-250-203 US-PATENT-3,428,812	N69-39890* # c 03 NASA-CASE-XLE-02824 US-PATENT-APPL-SN-487343 US-PATENT-CLASS-310-10 US-PATENT-3,443,128	N70-12616* # c 07 NASA-CASE-MSC-12259-1 US-PATENT-APPL-SN-853763 US-PATENT-CLASS-MFS-14741 US-PATENT-APPL-SN-880247
N69-27486* #	c 14	NASA-CASE-XAC-11225 US-PATENT-APPL-SN-638707 US-PATENT-CLASS-248-18 US-PATENT-3,430,902	N69-39895* # c 18 NASA-CASE-XNP-06508 US-PATENT-APPL-SN-617776 US-PATENT-CLASS-117-21 US-PATENT-3,446,642	N70-20737* # c 09 NASA-CASE-MFS-14741 US-PATENT-APPL-SN-880247 US-PATENT-CLASS-XMS-04890-1 US-PATENT-APPL-SN-797057
N69-27487* #	c 04	NASA-CASE-XGS-05533 US-PATENT-APPL-SN-568346 US-PATENT-CLASS-195-68 US-PATENT-3,437,560	N69-39896* # c 14 NASA-CASE-XAC-02970 US-PATENT-APPL-SN-447930 US-PATENT-CLASS-250-217 US-PATENT-3,452,872	N70-22192* # c 15 NASA-CASE-XMS-04890-1 US-PATENT-APPL-SN-797057 US-PATENT-CLASS-60-258 US-PATENT-3,490,238
N69-27490* #	c 15	NASA-CASE-XLA-02854 US-PATENT-APPL-SN-598118 US-PATENT-CLASS-285-3 US-PATENT-3,427,047	N69-39897* # c 09 NASA-CASE-XAC-08981 US-PATENT-APPL-SN-634060 US-PATENT-CLASS-317-16 US-PATENT-3,450,946	N70-26819* # c 15 NASA-CASE-LAR-10590-1 US-PATENT-APPL-SN-21732 US-PATENT-CLASS-XMF-00447 US-PATENT-APPL-SN-134479
N69-27491* #	c 16	NASA-CASE-XGS-04480 US-PATENT-APPL-SN-591007 US-PATENT-CLASS-250-199 US-PATENT-3,433,960	N69-39898* # c 03 NASA-CASE-XLE-01015 US-PATENT-APPL-SN-502746 US-PATENT-CLASS-310-4 US-PATENT-3,446,998	N70-33179* # c 14 NASA-CASE-XMF-00447 US-PATENT-APPL-SN-134479 US-PATENT-CLASS-340-198 US-PATENT-3,041,587
N69-27499* #	c 31	NASA-CASE-XMS-12158-1 US-PATENT-APPL-SN-762936 US-PATENT-CLASS-244-1 US-PATENT-3,439,886	N69-39929* # c 09 NASA-CASE-XNP-09776 US-PATENT-APPL-SN-617779 US-PATENT-CLASS-310-4 US-PATENT-3,446,998	N70-33180* # c 15 NASA-CASE-XLA-00137 US-PATENT-APPL-SN-8203 US-PATENT-CLASS-93-1 US-PATENT-3,010,372
N69-27500* #	c 09	NASA-CASE-XNP-09228 US-PATENT-APPL-SN-584070 US-PATENT-CLASS-307-136 US-PATENT-3,430,063	N69-39935* # c 15 NASA-CASE-XNP-08882 US-PATENT-APPL-SN-640784 US-PATENT-CLASS-220-14 US-PATENT-3,446,387	N70-33181* # c 21 NASA-CASE-XLA-00137 US-PATENT-APPL-SN-853984 US-PATENT-CLASS-250-83.3 US-PATENT-3,038,077
N69-27502* #	c 15	NASA-CASE-XMF-04132 US-PATENT-APPL-SN-640788 US-PATENT-CLASS-220-55 US-PATENT-3,429,477	N69-39936* # c 06 NASA-CASE-XNP-04816 US-PATENT-APPL-SN-578926 US-PATENT-CLASS-73-23.1 US-PATENT-3,443,416	N70-33182* # c 09 NASA-CASE-XAC-00086 US-PATENT-APPL-SN-824755 US-PATENT-CLASS-340-147 US-PATENT-3,059,220
N69-27503* #	c 14	NASA-CASE-XFR-09479 US-PATENT-APPL-SN-653278 US-PATENT-CLASS-73-49.8 US-PATENT-3,433,079	N69-39937* # c 14 NASA-CASE-XNP-09750 US-PATENT-APPL-SN-632162 US-PATENT-CLASS-250-83 US-PATENT-3,456,112	N70-33226* # c 15 NASA-CASE-XLE-00020 US-PATENT-APPL-SN-387332 US-PATENT-CLASS-253-39.15 US-PATENT-3,011,760
N69-27504* #	c 15	NASA-CASE-XNP-09452 US-PATENT-APPL-SN-640789 US-PATENT-CLASS-267-1 US-PATENT-3,430,942	N69-39974* # c 07 NASA-CASE-XGS-05918 US-PATENT-APPL-SN-685497 US-PATENT-CLASS-343-7.5 US-PATENT-3,430,237	N70-33242* # c 31 NASA-CASE-XLA-00165 US-PATENT-APPL-SN-47120 US-PATENT-CLASS-244-117 US-PATENT-3,028,128
N69-27505* #	c 15	NASA-CASE-XLA-09122 US-PATENT-APPL-SN-619903 US-PATENT-CLASS-64-28 US-PATENT-3,430,460	N69-39975* # c 14 NASA-CASE-XLA-01781 US-PATENT-APPL-SN-441936 US-PATENT-CLASS-73-86 US-PATENT-3,425,268	N70-33254* # c 14 NASA-CASE-XLA-00062 US-PATENT-APPL-SN-853983 US-PATENT-CLASS-88-16 US-PATENT-3,041,924
N69-27871* #	c 15	NASA-CASE-XMS-04318 US-PATENT-APPL-SN-521996 US-PATENT-CLASS-219-347 US-PATENT-3,431,397	N69-39978* # c 07 NASA-CASE-XGS-02749 US-PATENT-APPL-SN-502753 US-PATENT-CLASS-179-15 US-PATENT-3,450,842	N70-33255* # c 02 NASA-CASE-XLA-00230 US-PATENT-APPL-SN-41455 US-PATENT-CLASS-244-43 US-PATENT-3,053,484
N69-31244* #	c 06	NASA-CASE-NPO-10714 US-PATENT-APPL-SN-817569 US-PATENT-CLASS-ERC-10187 US-PATENT-APPL-SN-825253	N69-39979* # c 18 NASA-CASE-XGS-04119 US-PATENT-APPL-SN-452945 US-PATENT-CLASS-106-74 US-PATENT-3,454,410	N70-33264* # c 15 NASA-CASE-XLE-00092 US-PATENT-APPL-SN-835146 US-PATENT-CLASS-253-39.15 US-PATENT-3,057,597
N69-31343* #	c 16	NASA-CASE-ERC-10187 US-PATENT-APPL-SN-825253 US-PATENT-CLASS-ERC-10120 US-PATENT-APPL-SN-827597	N69-39980* # c 07 NASA-CASE-XGS-05211 US-PATENT-APPL-SN-590145 US-PATENT-CLASS-250-209 US-PATENT-3,444,380	N70-33265* # c 28 NASA-CASE-XLE-00817 US-PATENT-APPL-SN-264735 US-PATENT-CLASS-60-35.3 US-PATENT-3,173,246
N69-33482* #	c 26	NASA-CASE-ERC-10120 US-PATENT-APPL-SN-827597 US-PATENT-CLASS-XMF-03873 US-PATENT-APPL-SN-543774	N69-39981* # c 01 NASA-CASE-XLA-06095 US-PATENT-APPL-SN-683612 US-PATENT-CLASS-244-138 US-PATENT-3,443,779	N70-33266* # c 02 NASA-CASE-XLA-00221 US-PATENT-APPL-SN-51473 US-PATENT-CLASS-244-46 US-PATENT-3,064,928
N69-39733* #	c 06	NASA-CASE-XMF-03873 US-PATENT-APPL-SN-543774 US-PATENT-CLASS-73-24 US-PATENT-3,429,177	N69-39982* # c 14 NASA-CASE-XGS-01725 US-PATENT-APPL-SN-483891	N70-33278* # c 11 NASA-CASE-XLE-00168 US-PATENT-APPL-SN-842170 US-PATENT-CLASS-73-116 US-PATENT-3,063,291
N69-39734* #	c 09	NASA-CASE-XMF-04238 US-PATENT-APPL-SN-562443		

N70-33279*	c 21	NASA-CASE-XFR-00181 US-PATENT-APPL-SN-28175 US-PATENT-CLASS-244-83 US-PATENT-3,028,126	N70-33386*	c 14	NASA-CASE-XLA-00113 US-PATENT-APPL-SN-2792 US-PATENT-CLASS-73-147 US-PATENT-3,001,395	N70-34559* #	c 09	NASA-CASE-LAR-10218-1 US-PATENT-APPL-SN-47441 NASA-CASE-XMF-00324 US-PATENT-APPL-SN-109789 US-PATENT-CLASS-339-176 US-PATENT-3,189,864
N70-33283*	c 17	NASA-CASE-XLE-00151 US-PATENT-APPL-SN-848481 US-PATENT-CLASS-75-171 US-PATENT-2,971,837	N70-34134*	c 03	NASA-CASE-XLE-00212 US-PATENT-APPL-SN-151598 US-PATENT-CLASS-310-4 US-PATENT-3,202,844	N70-34646* #	c 03	NASA-CASE-NPO-111138 US-PATENT-APPL-SN-9251 NASA-CASE-XLA-00147 US-PATENT-APPL-SN-178215 US-PATENT-CLASS-313-156 US-PATENT-3,201,635
N70-33284*	c 28	NASA-CASE-XLE-00078 US-PATENT-APPL-SN-18776 US-PATENT-CLASS-60-35.6 US-PATENT-3,049,876	N70-34135*	c 31	NASA-CASE-XLA-00686 US-PATENT-APPL-SN-195347 US-PATENT-CLASS-343-833 US-PATENT-3,202,998	N70-34661*	c 25	NASA-CASE-XLA-00147 US-PATENT-APPL-SN-178215 US-PATENT-CLASS-313-156 US-PATENT-3,201,635
N70-33285*	c 05	NASA-CASE-XLA-00118 US-PATENT-APPL-SN-840983 US-PATENT-CLASS-5-345 US-PATENT-3,038,175	N70-34156*	c 14	NASA-CASE-XLE-00266 US-PATENT-APPL-SN-202024 US-PATENT-CLASS-73-15 US-PATENT-3,204,447	N70-34664*	c 15	NASA-CASE-XMF-00515 US-PATENT-APPL-SN-278790 US-PATENT-CLASS-308-9 US-PATENT-3,199,931
N70-33286*	c 02	NASA-CASE-XLA-00142 US-PATENT-APPL-SN-26375 US-PATENT-CLASS-244-46 US-PATENT-3,028,122	N70-34157*	c 03	NASA-CASE-XMF-00517 US-PATENT-APPL-SN-216711 US-PATENT-CLASS-244-1 US-PATENT-3,204,889	N70-34667*	c 03	NASA-CASE-XLA-00326 US-PATENT-APPL-SN-318443 US-PATENT-CLASS-89-1 US-PATENT-3,200,706
N70-33287*	c 11	NASA-CASE-XLA-00112 US-PATENT-APPL-SN-843022 US-PATENT-CLASS-73-147 US-PATENT-3,005,339	N70-34158*	c 14	NASA-CASE-XGS-00359 US-PATENT-APPL-SN-94952 US-PATENT-CLASS-250-203 US-PATENT-3,205,361	N70-34675* #	c 08	NASA-CASE-XNP-04162-1 US-PATENT-APPL-SN-872664 NASA-CASE-NPO-111106 US-PATENT-APPL-SN-15020
N70-33288*	c 17	NASA-CASE-XLE-02428 US-PATENT-APPL-SN-339821 US-PATENT-CLASS-29-198 US-PATENT-3,170,773	N70-34159*	c 31	NASA-CASE-XMF-03365 US-PATENT-APPL-SN-416941 US-PATENT-CLASS-248-188.9 US-PATENT-3,208,707	N70-34697* #	c 14	NASA-CASE-NPO-111106 US-PATENT-APPL-SN-15020 NASA-CASE-NPO-10682 US-PATENT-APPL-SN-15023
N70-33305*	c 12	NASA-CASE-XLA-00229 US-PATENT-APPL-SN-18780 US-PATENT-CLASS-114-66.5 US-PATENT-3,016,863	N70-34160*	c 02	NASA-CASE-XLA-01804 US-PATENT-APPL-SN-353637 US-PATENT-CLASS-244-50 US-PATENT-3,208,694	N70-34705*	c 14	NASA-CASE-XMF-00456 US-PATENT-APPL-SN-298800 US-PATENT-CLASS-73-88.5 US-PATENT-3,212,325
N70-33311*	c 15	NASA-CASE-XLE-00046 US-PATENT-APPL-SN-686796 US-PATENT-CLASS-29-488 US-PATENT-3,008,229	N70-34161*	c 14	NASA-CASE-XLA-00203 US-PATENT-APPL-SN-227682 US-PATENT-CLASS-73-105 US-PATENT-3,208,272	N70-34743*	c 08	NASA-CASE-XGS-00174 US-PATENT-APPL-SN-120803 US-PATENT-CLASS-307-88 US-PATENT-3,198,955
N70-33312*	c 09	NASA-CASE-XLA-00141 US-PATENT-APPL-SN-19971 US-PATENT-CLASS-219-34 US-PATENT-3,005,081	N70-34162*	c 28	NASA-CASE-XMF-01544 US-PATENT-APPL-SN-394638 US-PATENT-CLASS-60-35.55 US-PATENT-3,208,215	N70-34778*	c 08	NASA-CASE-XLA-00471 US-PATENT-APPL-SN-197553 US-PATENT-CLASS-235-154 US-PATENT-3,194,951
N70-33322*	c 14	NASA-CASE-XLA-00135 US-PATENT-APPL-SN-861152 US-PATENT-CLASS-244-14 US-PATENT-3,004,735	N70-34175*	c 28	NASA-CASE-XLE-01783 US-PATENT-APPL-SN-313132 US-PATENT-CLASS-60-35.5 US-PATENT-3,210,927	N70-34783*	c 27	NASA-CASE-XLA-00304 US-PATENT-APPL-SN-54552 US-PATENT-CLASS-18-39 US-PATENT-3,193,883
N70-33323*	c 15	NASA-CASE-XMF-00341 US-PATENT-APPL-SN-77256 US-PATENT-CLASS-62-45 US-PATENT-3,012,407	N70-34176*	c 31	NASA-CASE-XMF-00389 US-PATENT-APPL-SN-151114 US-PATENT-CLASS-244-1 US-PATENT-3,202,381	N70-34786*	c 11	NASA-CASE-XLA-00493 US-PATENT-APPL-SN-202029 US-PATENT-CLASS-73-432 US-PATENT-3,196,690
N70-33329*	c 11	NASA-CASE-XLA-00119 US-PATENT-APPL-SN-842171 US-PATENT-CLASS-240-1.2 US-PATENT-2,984,735	N70-34178*	c 02	NASA-CASE-XLA-00166 US-PATENT-APPL-SN-84961 US-PATENT-CLASS-244-46 US-PATENT-3,087,692	N70-34787*	c 08	NASA-CASE-XGS-00689 US-PATENT-APPL-SN-250451 US-PATENT-CLASS-235-176 US-PATENT-3,196,261
N70-33330*	c 15	NASA-CASE-XLE-00023 US-PATENT-APPL-SN-512352 US-PATENT-CLASS-78-1 US-PATENT-2,991,671	N70-34247*	c 15	NASA-CASE-XLE-00288 US-PATENT-APPL-SN-118200 US-PATENT-CLASS-62-50 US-PATENT-3,068,658	N70-34788*	c 28	NASA-CASE-XLE-00388 US-PATENT-APPL-SN-234568 US-PATENT-CLASS-55-306 US-PATENT-3,196,598
N70-33331*	c 28	NASA-CASE-XLA-00105 US-PATENT-APPL-SN-719173 US-PATENT-CLASS-60-35.6 US-PATENT-3,001,363	N70-34249*	c 15	NASA-CASE-XMF-00375 US-PATENT-APPL-SN-166699 US-PATENT-CLASS-72-56 US-PATENT-3,188,844	N70-34794*	c 14	NASA-CASE-XMF-00479 US-PATENT-APPL-SN-169977 US-PATENT-CLASS-73-71.2 US-PATENT-3,194,060
N70-33332*	c 02	NASA-CASE-XLA-00087 US-PATENT-APPL-SN-811509 US-PATENT-CLASS-244-12 US-PATENT-2,991,961	N70-34294*	c 28	NASA-CASE-XLE-00208 US-PATENT-APPL-SN-106135 US-PATENT-CLASS-60-35.54 US-PATENT-3,132,476	N70-34799*	c 14	NASA-CASE-XLA-00492 US-PATENT-APPL-SN-284265 US-PATENT-CLASS-73-88.5 US-PATENT-3,199,340
N70-33343*	c 03	NASA-CASE-XLA-00115 US-PATENT-APPL-SN-847027 US-PATENT-CLASS-244-1 US-PATENT-3,001,739	N70-34295*	c 21	NASA-CASE-XLA-01989 US-PATENT-APPL-SN-305020 US-PATENT-CLASS-244-1 US-PATENT-3,189,299	N70-34812*	c 33	NASA-CASE-XLE-00387 US-PATENT-APPL-SN-203411 US-PATENT-CLASS-219-19 US-PATENT-3,108,171
N70-33344*	c 33	NASA-CASE-XMS-00486 US-PATENT-APPL-SN-300113 US-PATENT-CLASS-244-1 US-PATENT-3,130,940	N70-34296*	c 31	NASA-CASE-XLA-00678 US-PATENT-APPL-SN-197551 US-PATENT-CLASS-244-1 US-PATENT-3,169,725	N70-34813*	c 14	NASA-CASE-XAC-00073 US-PATENT-APPL-SN-47122 US-PATENT-CLASS-73-147 US-PATENT-3,100,990
N70-33356*	c 28	NASA-CASE-XLE-00267 US-PATENT-APPL-SN-58147 US-PATENT-CLASS-60-35.5 US-PATENT-3,016,693	N70-34297*	c 21	NASA-CASE-XGS-00466 US-PATENT-APPL-SN-123597 US-PATENT-CLASS-250-83.3 US-PATENT-3,188,472	N70-34814*	c 15	NASA-CASE-XMF-00392 US-PATENT-APPL-SN-151112 US-PATENT-CLASS-219-137 US-PATENT-3,102,948
N70-33372*	c 28	NASA-CASE-XLE-00037 US-PATENT-APPL-SN-639589 US-PATENT-CLASS-253-39.15 US-PATENT-2,974,925	N70-34298*	c 14	NASA-CASE-XMF-00462 US-PATENT-APPL-SN-148001 US-PATENT-CLASS-88-14 US-PATENT-3,185,023	N70-34815*	c 11	NASA-CASE-XAC-00399 US-PATENT-APPL-SN-134481 US-PATENT-CLASS-35-12 US-PATENT-3,196,557
N70-33374*	c 28	NASA-CASE-XLA-00154 US-PATENT-APPL-SN-31242 US-PATENT-CLASS-60-35.6 US-PATENT-3,012,400	N70-34502*	c 09	NASA-CASE-XMF-00421 US-PATENT-APPL-SN-197548 US-PATENT-CLASS-317-140 US-PATENT-3,189,794	N70-34816*	c 14	NASA-CASE-XAC-00042 US-PATENT-APPL-SN-734805 US-PATENT-CLASS-73-398 US-PATENT-3,022,672
N70-33375*	c 28	NASA-CASE-XLE-00207 US-PATENT-APPL-SN-180370 US-PATENT-CLASS-60-35.6 US-PATENT-3,173,251	N70-34539*	c 21	NASA-CASE-XMF-00185 US-PATENT-APPL-SN-97112 US-PATENT-CLASS-244-76 US-PATENT-3,070,330	N70-34817*	c 15	NASA-CASE-XAC-00074 US-PATENT-APPL-SN-47123 US-PATENT-CLASS-137-340 US-PATENT-3,158,172
N70-33376*	c 15	NASA-CASE-XLE-00101 US-PATENT-APPL-SN-551961 US-PATENT-CLASS-251-173 US-PATENT-2,945,667	N70-34540*	c 33	NASA-CASE-XLA-00330 US-PATENT-APPL-SN-264729 US-PATENT-CLASS-219-121 US-PATENT-3,201,560	N70-34818*	c 14	NASA-CASE-XLE-00503 US-PATENT-APPL-SN-261912 US-PATENT-CLASS-73-136 US-PATENT-3,196,675
N70-33382*	c 15	NASA-CASE-XLE-00010 US-PATENT-APPL-SN-554899 US-PATENT-CLASS-266-19 US-PATENT-2,934,331	N70-34545*	c 33	NASA-CASE-XLE-00490 US-PATENT-APPL-SN-252259 US-PATENT-CLASS-219-347 US-PATENT-3,189,726	N70-34819*	c 09	NASA-CASE-XGS-00381 US-PATENT-APPL-SN-104188 US-PATENT-CLASS-307-88.5 US-PATENT-3,085,165
						N70-34820*	c 14	NASA-CASE-XAC-00030 US-PATENT-APPL-SN-760819

		US-PATENT-CLASS-73-401				US-PATENT-APPL-SN-178721				US-PATENT-3,150,387
		US-PATENT-3,024,659				US-PATENT-CLASS-310-5				NASA-CASE-XMF-00923
N70-34844*	c 11	NASA-CASE-XLE-00252				US-PATENT-3,205,381	N70-36802*	c 28		US-PATENT-APPL-SN-264736
		US-PATENT-APPL-SN-144803		N70-35409*	c 15	NASA-CASE-XHQ-01208				US-PATENT-CLASS-60-35.5
		US-PATENT-CLASS-73-116				US-PATENT-APPL-SN-42022				US-PATENT-3,159,967
		US-PATENT-3,199,343				US-PATENT-CLASS-121-38	N70-36803*	c 03		NASA-CASE-XNP-00644
N70-34850*	c 15	NASA-CASE-XLA-00754		N70-35422* #	c 28	US-PATENT-3,088,441				US-PATENT-APPL-SN-212496
		US-PATENT-APPL-SN-209479				NASA-CASE-LEW-10814-1				US-PATENT-CLASS-310-11
		US-PATENT-CLASS-244-100		N70-35423*	c 08	US-PATENT-APPL-SN-38262				US-PATENT-3,158,764
		US-PATENT-3,143,321				NASA-CASE-XNP-00432	N70-36804*	c 02		NASA-CASE-XLA-00898
N70-34856*	c 02	NASA-CASE-XAC-00139				US-PATENT-APPL-SN-127234				US-PATENT-APPL-SN-227683
		US-PATENT-APPL-SN-168560				US-PATENT-CLASS-340-347				US-PATENT-CLASS-244-152
		US-PATENT-CLASS-244-51		N70-35425*	c 09	US-PATENT-3,172,097				US-PATENT-3,170,660
		US-PATENT-3,144,999				NASA-CASE-XNP-00683	N70-36805*	c 26		NASA-CASE-XLA-00158
N70-34857*	c 05	NASA-CASE-XMS-00863				US-PATENT-APPL-SN-251451				US-PATENT-APPL-SN-221637
		US-PATENT-APPL-SN-221634				US-PATENT-CLASS-343-781				US-PATENT-CLASS-23-208
		US-PATENT-CLASS-9-11		N70-35427*	c 21	US-PATENT-3,209,361				US-PATENT-3,174,827
		US-PATENT-3,155,992				NASA-CASE-XGS-00809	N70-36806*	c 28		NASA-CASE-XLE-00145
N70-34858*	c 02	NASA-CASE-XLA-00806				US-PATENT-APPL-SN-85585				US-PATENT-APPL-SN-173081
		US-PATENT-APPL-SN-181828				US-PATENT-CLASS-88-1				US-PATENT-CLASS-60-35.6
		US-PATENT-APPL-SN-26375		N70-35440*	c 09	US-PATENT-3,083,611				US-PATENT-3,174,279
		US-PATENT-CLASS-244-46				NASA-CASE-XAC-00435	N70-36807*	c 14		NASA-CASE-XLA-00100
		US-PATENT-3,170,657				US-PATENT-APPL-SN-164428				US-PATENT-APPL-SN-534901
N70-34859*	c 15	NASA-CASE-XLE-00715				US-PATENT-CLASS-330-14				US-PATENT-CLASS-73-178
		US-PATENT-APPL-SN-212174				US-PATENT-3,196,362				US-PATENT-3,168,827
		US-PATENT-CLASS-251-333		N70-35534*	c 27	NASA-CASE-XGS-03556	N70-36824*	c 14		NASA-CASE-XLA-00481
		US-PATENT-3,191,907				US-PATENT-APPL-SN-94259				US-PATENT-APPL-SN-120797
N70-34860*	c 28	NASA-CASE-XLE-00144				US-PATENT-CLASS-60-35.6				US-PATENT-CLASS-73-212
		US-PATENT-APPL-SN-177684		N70-35587* #	c 14	US-PATENT-3,191,379				US-PATENT-3,170,324
		US-PATENT-CLASS-60-35.6				NASA-CASE-FRC-10053	N70-36825*	c 02		NASA-CASE-XLA-01583
		US-PATENT-3,120,101				US-PATENT-APPL-SN-33398				US-PATENT-APPL-SN-327565
N70-34861*	c 15	NASA-CASE-XLE-00810		N70-35666*	c 14	NASA-CASE-XNP-00646				US-PATENT-CLASS-244-103
		US-PATENT-APPL-SN-249540				US-PATENT-APPL-SN-173981				US-PATENT-3,169,001
		US-PATENT-CLASS-188-1				US-PATENT-CLASS-324-33	N70-36845*	c 31		NASA-CASE-XMF-02108
		US-PATENT-3,164,222				US-PATENT-3,171,081				US-PATENT-APPL-SN-372727
N70-34946*	c 06	NASA-CASE-XNP-00733		N70-35679* #	c 15	NASA-CASE-MSC-12279-1				US-PATENT-CLASS-244-100
		US-PATENT-APPL-SN-256484				US-PATENT-APPL-SN-24154				US-PATENT-3,181,821
		US-PATENT-CLASS-62-15		N70-36400*	c 18	NASA-CASE-XMS-00259	N70-36846*	c 33		NASA-CASE-XLA-00189
		US-PATENT-3,192,730				US-PATENT-APPL-SN-145007				US-PATENT-APPL-SN-223003
N70-34966*	c 31	NASA-CASE-XFR-00929				US-PATENT-CLASS-117-69				US-PATENT-CLASS-102-49
		US-PATENT-APPL-SN-290868				US-PATENT-3,157,529				US-PATENT-3,180,264
		US-PATENT-CLASS-35-12		N70-36409*	c 15	NASA-CASE-XLA-00482	N70-36847*	c 33		NASA-CASE-XNP-00463
		US-PATENT-3,191,316				US-PATENT-APPL-SN-166970				US-PATENT-APPL-SN-259487
N70-34967*	c 15	NASA-CASE-XNP-00595				US-PATENT-CLASS-29-423				US-PATENT-CLASS-165-96
		US-PATENT-APPL-SN-188594				US-PATENT-3,160,950				US-PATENT-3,177,933
		US-PATENT-CLASS-204-298		N70-36410*	c 31	NASA-CASE-XMF-00641	N70-36901*	c 15		NASA-CASE-XFR-00811
		US-PATENT-3,189,535				US-PATENT-APPL-SN-221945				US-PATENT-APPL-SN-257346
N70-35087*	c 15	NASA-CASE-XGS-00587				US-PATENT-CLASS-244-1				US-PATENT-CLASS-29-234
		US-PATENT-APPL-SN-313135				US-PATENT-3,158,336				US-PATENT-3,166,834
		US-PATENT-CLASS-137-340		N70-36411*	c 15	NASA-CASE-XLE-00164	N70-36907*	c 14		NASA-CASE-XNP-00614
		US-PATENT-3,211,169				US-PATENT-APPL-SN-107870				US-PATENT-APPL-SN-247419
N70-35089*	c 21	NASA-CASE-XNP-00438				US-PATENT-CLASS-60-39.66				US-PATENT-CLASS-33-1
		US-PATENT-APPL-SN-180381				US-PATENT-3,162,012				US-PATENT-3,163,935
		US-PATENT-CLASS-250-203		N70-36412*	c 15	NASA-CASE-XLE-00170	N70-36908*	c 15		NASA-CASE-XNP-00214
		US-PATENT-3,205,362				US-PATENT-APPL-SN-232914				US-PATENT-APPL-SN-180377
N70-35152*	c 05	NASA-CASE-XMS-01240				US-PATENT-CLASS-253-66				US-PATENT-CLASS-137-625.69
		US-PATENT-APPL-SN-331324				US-PATENT-3,164,369				US-PATENT-3,140,728
		US-PATENT-CLASS-297-216		N70-36492*	c 15	NASA-CASE-XLE-00397	N70-36910*	c 28		NASA-CASE-XNP-00610
		US-PATENT-3,165,356				US-PATENT-APPL-SN-195346				US-PATENT-APPL-SN-211464
N70-35219*	c 09	NASA-CASE-XNP-00611				US-PATENT-CLASS-137-614				US-PATENT-CLASS-60-35.6
		US-PATENT-APPL-SN-140443				US-PATENT-3,170,486				US-PATENT-3,170,290
		US-PATENT-CLASS-343-781		N70-36493*	c 05	NASA-CASE-XMS-00864	N70-36911*	c 07		NASA-CASE-XNP-00748
		US-PATENT-3,209,360				US-PATENT-APPL-SN-258932				US-PATENT-APPL-SN-184649
N70-35220*	c 14	NASA-CASE-XNP-00449				US-PATENT-CLASS-9-312				US-PATENT-CLASS-343-17.2
		US-PATENT-APPL-SN-118169				US-PATENT-3,152,344				US-PATENT-3,183,506
		US-PATENT-CLASS-330-49		N70-36494*	c 09	NASA-CASE-XMF-00369	N70-36913*	c 11		NASA-CASE-XMF-00411
		US-PATENT-3,160,825				US-PATENT-APPL-SN-134782				US-PATENT-APPL-SN-158914
N70-35368*	c 14	NASA-CASE-XLE-00335				US-PATENT-CLASS-339-176				US-PATENT-CLASS-73-147
		US-PATENT-APPL-SN-197554				US-PATENT-3,149,897				US-PATENT-3,182,496
		US-PATENT-CLASS-73-15.6		N70-36535*	c 15	NASA-CASE-XLE-00303	N70-36938*	c 21		NASA-CASE-XNP-00294
		US-PATENT-3,176,499				US-PATENT-APPL-SN-182692				US-PATENT-APPL-SN-182696
N70-35381*	c 28	NASA-CASE-XHQ-01897				US-PATENT-CLASS-60-35.6				US-PATENT-CLASS-60-35.5
		US-PATENT-APPL-SN-129579				US-PATENT-3,170,286				US-PATENT-3,178,883
		US-PATENT-CLASS-60-35.6		N70-36536*	c 32	NASA-CASE-XLA-00204	N70-36943*	c 21		NASA-CASE-XLA-00281
		US-PATENT-3,121,309				US-PATENT-APPL-SN-189648				US-PATENT-APPL-SN-84962
N70-35382*	c 09	NASA-CASE-XNP-00540				US-PATENT-CLASS-135-1				US-PATENT-CLASS-244-1
		US-PATENT-APPL-SN-140509				US-PATENT-3,170,471				US-PATENT-3,180,587
		US-PATENT-CLASS-343-781		N70-36616*	c 17	NASA-CASE-XLE-00283	N70-36946*	c 25		NASA-CASE-XLA-01354
		US-PATENT-3,212,096				US-PATENT-APPL-SN-107866				US-PATENT-APPL-SN-253774
N70-35383*	c 11	NASA-CASE-XMF-00580				US-PATENT-CLASS-75-171				US-PATENT-CLASS-60-35.5
		US-PATENT-APPL-SN-343425				US-PATENT-3,167,426				US-PATENT-3,174,278
		US-PATENT-CLASS-248-119		N70-36617*	c 33	NASA-CASE-XLA-01291	N70-36947*	c 15		NASA-CASE-XNP-00416
		US-PATENT-3,194,525				US-PATENT-APPL-SN-277961				US-PATENT-APPL-SN-180395
N70-35394*	c 14	NASA-CASE-XNP-00708				US-PATENT-CLASS-244-1				US-PATENT-CLASS-189-36
		US-PATENT-APPL-SN-281069				US-PATENT-3,176,933				US-PATENT-3,169,613
		US-PATENT-CLASS-35-45		N70-36618*	c 14	NASA-CASE-XLE-00143	N70-37245*	c 28		NASA-CASE-XLE-00376
		US-PATENT-3,196,558				US-PATENT-APPL-SN-104187				US-PATENT-APPL-SN-139007
N70-35395*	c 21	NASA-CASE-XNP-00465				US-PATENT-CLASS-324-61				US-PATENT-CLASS-60-35.5
		US-PATENT-APPL-SN-180379				US-PATENT-3,176,222				US-PATENT-3,156,090
		US-PATENT-CLASS-244-1		N70-36654*	c 31	NASA-CASE-XMF-02853	N70-37924*	c 31		NASA-CASE-XGS-00260
		US-PATENT-3,206,141				US-PATENT-APPL-SN-360182				US-PATENT-APPL-SN-187446
N70-35407*	c 15	NASA-CASE-XLE-00815				US-PATENT-CLASS-244-100				US-PATENT-CLASS-244-1
		US-PATENT-APPL-SN-300712				US-PATENT-3,175,789				US-PATENT-3,090,580
		US-PATENT-CLASS-251-11		N70-36778*	c 03	NASA-CASE-XLA-00838	N70-37925*	c 15		NASA-CASE-XLA-00128
		US-PATENT-3,211,414				US-PATENT-APPL-SN-192016				US-PATENT-APPL-SN-32496
N70-35408*	c 03	NASA-CASE-XGS-01593				US-PATENT-CLASS-9-8				US-PATENT-CLASS-73-384

N70-37938*	c 31	US-PATENT-3,093,000 NASA-CASE-XLA-00149 US-PATENT-APPL-SN-847023 US-PATENT-CLASS-244-1	N70-38601*	c 15	US-PATENT-3,135,090 NASA-CASE-XLA-00679 US-PATENT-APPL-SN-213836 US-PATENT-CLASS-188-1	N70-39925*	c 28	US-PATENT-3,229,884 NASA-CASE-XLE-00660 US-PATENT-APPL-SN-231604 US-PATENT-CLASS-313-11.5
N70-37939*	c 02	US-PATENT-3,093,346 NASA-CASE-XLE-00222 US-PATENT-APPL-SN-77252 US-PATENT-CLASS-244-113	N70-38602*	c 14	US-PATENT-3,128,845 NASA-CASE-XLE-00243 US-PATENT-APPL-SN-118203 US-PATENT-CLASS-324-106	N70-39930*	c 03	US-PATENT-3,229,139 NASA-CASE-XLA-00791 US-PATENT-APPL-SN-347960 US-PATENT-CLASS-102-49
N70-37979*	c 33	US-PATENT-3,098,630 NASA-CASE-XLA-00349 US-PATENT-APPL-SN-141220 US-PATENT-CLASS-62-467	N70-38603*	c 15	US-PATENT-3,202,915 NASA-CASE-XNP-00450 US-PATENT-APPL-SN-180394 US-PATENT-CLASS-137-495	N70-39931*	c 28	US-PATENT-3,229,636 NASA-CASE-XNP-01104 US-PATENT-APPL-SN-290867 US-PATENT-CLASS-60-39.48
N70-37980*	c 28	US-PATENT-3,090,212 NASA-CASE-XLE-00342 US-PATENT-APPL-SN-60531 US-PATENT-CLASS-60-35.5	N70-38604*	c 09	US-PATENT-3,105,515 NASA-CASE-XGS-00458 US-PATENT-APPL-SN-139006 US-PATENT-CLASS-307-88	N70-40003*	c 14	US-PATENT-3,229,463 NASA-CASE-XGS-01036 US-PATENT-APPL-SN-227692 US-PATENT-CLASS-88-14
N70-37981*	c 31	US-PATENT-3,119,232 NASA-CASE-XLA-00138 US-PATENT-APPL-SN-8204 US-PATENT-CLASS-343-18	N70-38620*	c 15	US-PATENT-3,128,389 NASA-CASE-XNP-00476 US-PATENT-APPL-SN-182698 US-PATENT-CLASS-308-9	N70-40015*	c 26	US-PATENT-3,229,568 NASA-CASE-XLA-02057 US-PATENT-APPL-SN-320595 US-PATENT-CLASS-23-277
N70-37986*	c 31	US-PATENT-3,115,630 NASA-CASE-XLA-00241 US-PATENT-APPL-SN-61329 US-PATENT-CLASS-244-1	N70-38645*	c 28	US-PATENT-3,132,903 NASA-CASE-XNP-00234 US-PATENT-APPL-SN-180382 US-PATENT-CLASS-60-35.54	N70-40016*	c 30	US-PATENT-3,230,053 NASA-CASE-XGS-00619 US-PATENT-APPL-SN-264728 US-PATENT-CLASS-244-1
N70-38009*	c 02	US-PATENT-3,104,079 NASA-CASE-XLA-00195 US-PATENT-APPL-SN-60536 US-PATENT-CLASS-244-140	N70-38675*	c 11	US-PATENT-3,139,725 NASA-CASE-XNP-00459 US-PATENT-APPL-SN-180384 US-PATENT-CLASS-73-432	N70-40062*	c 15	US-PATENT-3,229,930 NASA-CASE-XMS-01624 US-PATENT-APPL-SN-422867 US-PATENT-CLASS-55-408
N70-38010*	c 31	US-PATENT-3,079,113 NASA-CASE-XLA-00805 US-PATENT-APPL-SN-181829 US-PATENT-CLASS-244-46	N70-38676*	c 31	US-PATENT-3,187,583 NASA-CASE-XLA-00258 US-PATENT-APPL-SN-101029 US-PATENT-CLASS-244-1	N70-40063*	c 07	US-PATENT-3,224,173 NASA-CASE-XMS-00893 US-PATENT-APPL-SN-251449 US-PATENT-CLASS-343-18
N70-38011*	c 02	US-PATENT-3,120,361 NASA-CASE-XLA-00350 US-PATENT-APPL-SN-153266 US-PATENT-CLASS-244-46	N70-38710*	c 28	US-PATENT-3,144,219 NASA-CASE-XMF-00148 US-PATENT-APPL-SN-118202 US-PATENT-CLASS-60-35.6	N70-40123*	c 09	US-PATENT-3,218,547 NASA-CASE-XGS-01881 US-PATENT-APPL-SN-155584 US-PATENT-CLASS-324-43
N70-38020*	c 15	US-PATENT-3,104,082 NASA-CASE-XLE-00345 US-PATENT-APPL-SN-183978 US-PATENT-CLASS-62-55	N70-38711*	c 28	US-PATENT-3,122,885 NASA-CASE-XLE-00057 US-PATENT-APPL-SN-0914 US-PATENT-CLASS-60-35.55	N70-40124*	c 12	US-PATENT-3,215,572 NASA-CASE-XLE-01512 US-PATENT-APPL-SN-315096 US-PATENT-CLASS-149-2
N70-38181*	c 28	US-PATENT-3,122,000 NASA-CASE-XNP-00217 US-PATENT-APPL-SN-180374 US-PATENT-CLASS-102-49	N70-38712*	c 09	US-PATENT-3,080,711 NASA-CASE-XMF-01129 US-PATENT-APPL-SN-273534 US-PATENT-CLASS-318-260	N70-40125*	c 08	US-PATENT-3,216,007 NASA-CASE-XAC-00404 US-PATENT-APPL-SN-209801 US-PATENT-CLASS-340-347
N70-38182*	c 11	US-PATENT-3,122,098 NASA-CASE-XNP-00612 US-PATENT-APPL-SN-228507 US-PATENT-CLASS-220-63	N70-38713*	c 03	US-PATENT-3,147,422 NASA-CASE-XGS-00473 US-PATENT-APPL-SN-139012 US-PATENT-CLASS-200-39	N70-40156*	c 15	US-PATENT-3,223,374 NASA-CASE-XLA-01019 US-PATENT-APPL-SN-282817 US-PATENT-CLASS-248-358
N70-38196*	c 11	US-PATENT-3,123,248 NASA-CASE-XMF-00424 US-PATENT-APPL-SN-159804 US-PATENT-CLASS-73-517	N70-38995*	c 09	US-PATENT-3,141,932 NASA-CASE-XGS-00131 US-PATENT-APPL-SN-14488 US-PATENT-CLASS-331-113	N70-40157*	c 14	US-PATENT-3,221,549 NASA-CASE-XAC-00472 US-PATENT-APPL-SN-236749 US-PATENT-CLASS-73-142
N70-38197*	c 28	US-PATENT-3,141,340 NASA-CASE-XLE-00455 US-PATENT-APPL-SN-203409 US-PATENT-CLASS-75-222	N70-38996*	c 15	US-PATENT-3,170,605 NASA-CASE-XNP-00679 US-PATENT-APPL-SN-290870 US-PATENT-CLASS-222-389	N70-40180*	c 15	US-PATENT-3,224,263 NASA-CASE-XLE-00720 US-PATENT-APPL-SN-302749 US-PATENT-CLASS-73-134
N70-38198*	c 17	US-PATENT-3,141,769 NASA-CASE-XLE-00231 US-PATENT-APPL-SN-64226 US-PATENT-CLASS-22-203	N70-38997*	c 12	US-PATENT-3,107,605 NASA-CASE-XMF-00658 US-PATENT-APPL-SN-216710 US-PATENT-CLASS-137-1	N70-40201*	c 14	US-PATENT-3,221,547 NASA-CASE-XMF-00437 US-PATENT-APPL-SN-120795 US-PATENT-CLASS-343-705
N70-38199*	c 28	US-PATENT-3,138,837 NASA-CASE-XLE-00111 US-PATENT-APPL-SN-835152 US-PATENT-CLASS-60-39.48	N70-38998*	c 09	US-PATENT-3,100,294 NASA-CASE-XLE-00085 US-PATENT-APPL-SN-25175 US-PATENT-CLASS-253-66	N70-40203*	c 14	US-PATENT-3,201,980 NASA-CASE-XMF-00722 US-PATENT-APPL-SN-347626 US-PATENT-CLASS-228-50
N70-38200*	c 07	US-PATENT-3,136,123 NASA-CASE-XLA-00414 US-PATENT-APPL-SN-209478 US-PATENT-CLASS-343-705	N70-39895*	c 28	US-PATENT-3,070,349 NASA-CASE-XMF-00339 US-PATENT-APPL-SN-110591 US-PATENT-CLASS-308-9	N70-40204*	c 15	US-PATENT-3,219,250 NASA-CASE-XMS-01546 US-PATENT-APPL-SN-386467 US-PATENT-CLASS-222-45
N70-38201*	c 09	US-PATENT-3,132,342 NASA-CASE-XNP-00738 US-PATENT-APPL-SN-204015 US-PATENT-CLASS-174-115	N70-39896*	c 15	US-PATENT-3,072,574 NASA-CASE-XMF-00480 US-PATENT-APPL-SN-144804 US-PATENT-CLASS-248-346	N70-40233*	c 14	US-PATENT-3,228,558 NASA-CASE-XLE-01716 US-PATENT-APPL-SN-349778 US-PATENT-CLASS-126-270
N70-38202*	c 11	US-PATENT-3,106,603 NASA-CASE-XNP-00425 US-PATENT-APPL-SN-180396 US-PATENT-CLASS-89-1.7	N70-39897*	c 18	US-PATENT-3,069,123 NASA-CASE-XLE-00005 US-PATENT-APPL-SN-718095 US-PATENT-CLASS-60-35.6	N70-40234*	c 09	US-PATENT-3,229,682 NASA-CASE-XMF-00908 US-PATENT-APPL-SN-241085 US-PATENT-CLASS-250-201
N70-38225*	c 15	US-PATENT-3,112,672 NASA-CASE-XNP-00840 US-PATENT-APPL-SN-269222 US-PATENT-CLASS-267-1	N70-39898*	c 14	US-PATENT-3,067,573 NASA-CASE-XAC-00060 US-PATENT-APPL-SN-47121 US-PATENT-CLASS-200-19	N70-40238*	c 14	US-PATENT-3,229,099 NASA-CASE-XLA-00183 US-PATENT-APPL-SN-199202 US-PATENT-CLASS-250-203
N70-38249*	c 28	US-PATENT-3,127,157 NASA-CASE-XNP-00249 US-PATENT-APPL-SN-180391 US-PATENT-CLASS-60-35.6	N70-39899*	c 28	US-PATENT-3,076,055 NASA-CASE-XMS-01115 US-PATENT-APPL-SN-277404 US-PATENT-CLASS-128-29	N70-40239*	c 14	US-PATENT-3,143,651 NASA-CASE-XMF-00701 US-PATENT-APPL-SN-261917 US-PATENT-CLASS-307-88.5
N70-38490*	c 17	US-PATENT-3,120,738 NASA-CASE-XLE-00228 US-PATENT-APPL-SN-64224 US-PATENT-CLASS-29-183.5	N70-39915*	c 09	US-PATENT-3,229,689 NASA-CASE-XMF-00640 US-PATENT-APPL-SN-341467 US-PATENT-CLASS-228-50	N70-40272*	c 09	
N70-38504*	c 28	US-PATENT-3,084,421 NASA-CASE-XMS-00583 US-PATENT-APPL-SN-182699 US-PATENT-CLASS-60-35.6	N70-39922*	c 05				
N70-38505*	c 28	US-PATENT-3,135,089 NASA-CASE-XLE-00323 US-PATENT-APPL-SN-183977 US-PATENT-CLASS-60-35.6	N70-39924*	c 15				

N70-40273*	c 14	US-PATENT-3,218,479 NASA-CASE-XNP-00637 US-PATENT-APPL-SN-280776 US-PATENT-CLASS-95-58 US-PATENT-3,217,624	N70-41580*	c 03	US-PATENT-3,295,556 NASA-CASE-XLA-04622 US-PATENT-APPL-SN-277833 US-PATENT-CLASS-126-270 US-PATENT-3,295,512	N70-41811*	c 15	US-PATENT-3,287,031 NASA-CASE-XNP-01152 US-PATENT-APPL-SN-369337 US-PATENT-CLASS-137-539 US-PATENT-3,302,662
N70-40309*	c 30	NASA-CASE-XLA-00210 US-PATENT-APPL-SN-82658 US-PATENT-CLASS-343-18 US-PATENT-3,220,004	N70-41581*	c 05	NASA-CASE-XAC-01404 US-PATENT-APPL-SN-363348 US-PATENT-CLASS-74-471 US-PATENT-3,295,386	N70-41812*	c 14	NASA-CASE-XMS-03792 US-PATENT-APPL-SN-516159 US-PATENT-CLASS-200-61.45 US-PATENT-3,303,304
N70-40353*	c 30	NASA-CASE-XMF-03198 US-PATENT-APPL-SN-370134 US-PATENT-CLASS-89-1.7 US-PATENT-3,224,336	N70-41582*	c 28	NASA-CASE-XMF-01813 US-PATENT-APPL-SN-375674 US-PATENT-CLASS-181-52 US-PATENT-3,270,835	N70-41818*	c 28	NASA-CASE-XLE-00150 US-PATENT-APPL-SN-843032 US-PATENT-CLASS-29-157.3 US-PATENT-3,035,333
N70-40354*	c 15	NASA-CASE-XMF-01045 US-PATENT-APPL-SN-355130 US-PATENT-CLASS-188-1 US-PATENT-3,228,492	N70-41583*	c 18	NASA-CASE-XMF-01030 US-PATENT-APPL-SN-317389 US-PATENT-CLASS-161-115 US-PATENT-3,296,060	N70-41819*	c 05	NASA-CASE-XAC-00405 US-PATENT-APPL-SN-158916 US-PATENT-CLASS-128-1 US-PATENT-3,302,633
N70-40367*	c 28	NASA-CASE-XLE-00177 US-PATENT-APPL-SN-10812 US-PATENT-CLASS-60-35.3 US-PATENT-3,045,424	N70-41588*	c 31	NASA-CASE-XMF-01973 US-PATENT-APPL-SN-375682 US-PATENT-CLASS-244-1 US-PATENT-3,295,790	N70-41829*	c 15	NASA-CASE-XMF-01371 US-PATENT-APPL-SN-353634 US-PATENT-CLASS-287-119 US-PATENT-3,302,960
N70-40400*	c 14	NASA-CASE-XAC-00648 US-PATENT-APPL-SN-216939 US-PATENT-CLASS-73-147 US-PATENT-3,218,850	N70-41589*	c 02	NASA-CASE-XMF-01174 US-PATENT-APPL-SN-410331 US-PATENT-CLASS-244-100 US-PATENT-3,295,798	N70-41855*	c 31	NASA-CASE-XNP-02982 US-PATENT-APPL-SN-388966 US-PATENT-CLASS-244-1 US-PATENT-3,304,028
N70-41275*	c 28	NASA-CASE-XNP-01390 US-PATENT-APPL-SN-424157 US-PATENT-CLASS-60-259 US-PATENT-3,300,981	N70-41628*	c 25	NASA-CASE-XAC-00319 US-PATENT-APPL-SN-77251 US-PATENT-CLASS-315-111 US-PATENT-3,229,155	N70-41856*	c 21	NASA-CASE-XNP-01307 US-PATENT-APPL-SN-390250 US-PATENT-CLASS-244-1 US-PATENT-3,286,953
N70-41297*	c 05	NASA-CASE-XMS-01492 US-PATENT-APPL-SN-398131 US-PATENT-CLASS-55-35 US-PATENT-3,300,949	N70-41629*	c 15	NASA-CASE-XGS-02441 US-PATENT-APPL-SN-411944 US-PATENT-CLASS-285-331 US-PATENT-3,301,578	N70-41863*	c 02	NASA-CASE-XLA-01220 US-PATENT-APPL-SN-379417 US-PATENT-CLASS-244-16 US-PATENT-3,286,957
N70-41310*	c 15	NASA-CASE-XNP-01567 US-PATENT-APPL-SN-448898 US-PATENT-CLASS-248-178 US-PATENT-3,295,808	N70-41630*	c 02	NASA-CASE-XMS-00907 US-PATENT-APPL-SN-428890 US-PATENT-CLASS-244-138 US-PATENT-3,301,511	N70-41864*	c 03	NASA-CASE-XGS-01419 US-PATENT-APPL-SN-323182 US-PATENT-CLASS-136-179 US-PATENT-3,287,174
N70-41311*	c 28	NASA-CASE-XNP-00876 US-PATENT-APPL-SN-377784 US-PATENT-CLASS-60-251 US-PATENT-3,298,182	N70-41631*	c 31	NASA-CASE-XMS-04142 US-PATENT-APPL-SN-422865 US-PATENT-CLASS-244-1 US-PATENT-3,301,507	N70-41871*	c 31	NASA-CASE-XMS-04390 US-PATENT-APPL-SN-502729 US-PATENT-CLASS-62-45 US-PATENT-3,304,729
N70-41329*	c 05	NASA-CASE-XMS-01615 US-PATENT-APPL-SN-329595 US-PATENT-CLASS-128-2.05 US-PATENT-3,298,362	N70-41646*	c 15	NASA-CASE-XLE-01449 US-PATENT-APPL-SN-330209 US-PATENT-CLASS-137-197 US-PATENT-3,295,545	N70-41897*	c 27	NASA-CASE-XNP-01749 US-PATENT-APPL-SN-440033 US-PATENT-CLASS-149-109 US-PATENT-3,305,415
N70-41330*	c 14	NASA-CASE-XLE-00688 US-PATENT-APPL-SN-334672 US-PATENT-CLASS-73-32 US-PATENT-3,298,221	N70-41647*	c 14	NASA-CASE-XGS-00769 US-PATENT-APPL-SN-319893 US-PATENT-CLASS-242-55.19 US-PATENT-3,295,782	N70-41922*	c 28	NASA-CASE-XNP-02839 US-PATENT-APPL-SN-477333 US-PATENT-CLASS-60-202 US-PATENT-3,304,718
N70-41331*	c 07	NASA-CASE-XLA-01400 US-PATENT-APPL-SN-363653 US-PATENT-CLASS-325-65 US-PATENT-3,296,531	N70-41655*	c 09	NASA-CASE-XMF-00906 US-PATENT-APPL-SN-264731 US-PATENT-CLASS-324-113 US-PATENT-3,287,640	N70-41929*	c 09	NASA-CASE-XNP-01951 US-PATENT-APPL-SN-413662 US-PATENT-CLASS-335-300 US-PATENT-3,305,810
N70-41332*	c 14	NASA-CASE-XLA-00495 US-PATENT-APPL-SN-269215 US-PATENT-CLASS-324-70 US-PATENT-3,296,526	N70-41675*	c 09	NASA-CASE-XMS-01315 US-PATENT-APPL-SN-347101 US-PATENT-CLASS-307-88.5 US-PATENT-3,302,040	N70-41930*	c 21	NASA-CASE-XNP-01501 US-PATENT-APPL-SN-432027 US-PATENT-CLASS-343-12 US-PATENT-3,305,861
N70-41366*	c 14	NASA-CASE-XLA-01353 US-PATENT-APPL-SN-403960 US-PATENT-CLASS-73-147 US-PATENT-3,301,046	N70-41676*	c 14	NASA-CASE-XGS-01231 US-PATENT-APPL-SN-346356 US-PATENT-CLASS-250-71 US-PATENT-3,302,023	N70-41946*	c 14	NASA-CASE-XLE-00011 US-PATENT-APPL-SN-735911 US-PATENT-CLASS-88-14 US-PATENT-2,960,002
N70-41367*	c 32	NASA-CASE-XGS-00938 US-PATENT-APPL-SN-392970 US-PATENT-CLASS-214-1 US-PATENT-3,295,699	N70-41677*	c 11	NASA-CASE-XMF-01772 US-PATENT-APPL-SN-370135 US-PATENT-CLASS-73-116 US-PATENT-3,295,366	N70-41948*	c 31	NASA-CASE-XMF-01899 US-PATENT-APPL-SN-428882 US-PATENT-CLASS-60-257 US-PATENT-3,304,724
N70-41370*	c 32	NASA-CASE-XNP-01962 US-PATENT-APPL-SN-369640 US-PATENT-CLASS-92-94 US-PATENT-3,298,285	N70-41678*	c 07	NASA-CASE-XGS-02608 US-PATENT-APPL-SN-456578 US-PATENT-CLASS-343-18 US-PATENT-3,289,205	N70-41954*	c 03	NASA-CASE-XAC-03392 US-PATENT-APPL-SN-430776 US-PATENT-CLASS-74-519 US-PATENT-3,304,799
N70-41371*	c 15	NASA-CASE-XMF-01452 US-PATENT-APPL-SN-356692 US-PATENT-CLASS-29-271 US-PATENT-3,300,847	N70-41679*	c 15	NASA-CASE-XLA-01441 US-PATENT-APPL-SN-516151 US-PATENT-CLASS-102-49 US-PATENT-3,302,569	N70-41955*	c 14	NASA-CASE-XNP-02029 US-PATENT-APPL-SN-221276 US-PATENT-CLASS-88-14 US-PATENT-3,323,408
N70-41372*	c 07	NASA-CASE-XLA-01127 US-PATENT-APPL-SN-363654 US-PATENT-CLASS-325-65 US-PATENT-3,300,731	N70-41680*	c 07	NASA-CASE-XNP-02723 US-PATENT-APPL-SN-371857 US-PATENT-CLASS-343-14 US-PATENT-3,287,725	N70-41957*	c 14	NASA-CASE-XAC-01101 US-PATENT-APPL-SN-355129 US-PATENT-CLASS-73-141 US-PATENT-3,304,773
N70-41373*	c 31	NASA-CASE-XMS-01906 US-PATENT-APPL-SN-339040 US-PATENT-CLASS-244-1 US-PATENT-3,300,162	N70-41681*	c 14	NASA-CASE-XAC-02877 US-PATENT-APPL-SN-449902 US-PATENT-CLASS-73-30 US-PATENT-3,295,360	N70-41960*	c 15	NASA-CASE-XNP-05082 US-PATENT-APPL-SN-521753 US-PATENT-CLASS-174-68.5 US-PATENT-3,321,570
N70-41447*	c 28	NASA-CASE-XNP-00732 US-PATENT-APPL-SN-261918 US-PATENT-CLASS-210-314 US-PATENT-3,295,684	N70-41682*	c 14	NASA-CASE-XMS-05936 US-PATENT-APPL-SN-557868 US-PATENT-CLASS-73-517 US-PATENT-3,295,377	N70-41961*	c 08	NASA-CASE-XNP-00911 US-PATENT-APPL-SN-280777 US-PATENT-CLASS-178-67 US-PATENT-3,305,636
N70-41576*	c 28	NASA-CASE-XLE-00519 US-PATENT-APPL-SN-249542 US-PATENT-CLASS-313-63 US-PATENT-3,287,582	N70-41717*	c 09	NASA-CASE-XMS-02087 US-PATENT-APPL-SN-439489 US-PATENT-CLASS-165-1 US-PATENT-3,301,315	N70-41964*	c 10	NASA-CASE-XGS-01983 US-PATENT-APPL-SN-388023 US-PATENT-CLASS-333-79 US-PATENT-3,305,801
N70-41578*	c 16	NASA-CASE-XGS-01504 US-PATENT-APPL-SN-340113 US-PATENT-CLASS-331-94 US-PATENT-3,287,660	N70-41807*	c 14	NASA-CASE-XNP-01472 US-PATENT-APPL-SN-321656 US-PATENT-CLASS-178-7.2 US-PATENT-3,287,496	N70-41967*	c 28	NASA-CASE-XLA-02651 US-PATENT-APPL-SN-449901 US-PATENT-CLASS-102-49 US-PATENT-3,304,865
N70-41579*	c 32	NASA-CASE-XLE-00620 US-PATENT-APPL-SN-304698 US-PATENT-CLASS-138-119	N70-41808*	c 15	NASA-CASE-XMS-02532 US-PATENT-APPL-SN-398132 US-PATENT-CLASS-285-27	N70-41991*	c 10	NASA-CASE-XNP-03128 US-PATENT-APPL-SN-397665 US-PATENT-CLASS-250-83.6



N70-41992*	c 28	US-PATENT-3,321,628 NASA-CASE-XLE-00685 US-PATENT-APPL-SN-407595 US-PATENT-CLASS-60-260 US-PATENT-3,321,922	N71-10616*	c 14	US-PATENT-3,311,315 NASA-CASE-XMF-02433 US-PATENT-APPL-SN-405630 US-PATENT-CLASS-73-70.2 US-PATENT-3,310,978	N71-10781*	c 14	US-PATENT-3,316,716 NASA-CASE-XLE-01481 US-PATENT-APPL-SN-319905 US-PATENT-CLASS-73-99 US-PATENT-3,282,091
N70-41993*	c 15	NASA-CASE-XLE-01300 US-PATENT-APPL-SN-380960 US-PATENT-CLASS-73-100 US-PATENT-3,323,356	N71-10617*	c 15	NASA-CASE-XMF-01887 US-PATENT-APPL-SN-422868 US-PATENT-CLASS-308-5 US-PATENT-3,325,229	N71-10782*	c 15	NASA-CASE-XKS-01985 US-PATENT-APPL-SN-357337 US-PATENT-CLASS-285-24 US-PATENT-3,319,979
N70-41994*	c 14	NASA-CASE-XMF-02822 US-PATENT-APPL-SN-403959 US-PATENT-CLASS-73-194 US-PATENT-3,323,362	N71-10618*	c 09	NASA-CASE-XNP-03332 US-PATENT-APPL-SN-368123 US-PATENT-CLASS-313-63 US-PATENT-3,311,772	N71-10797*	c 14	NASA-CASE-XLE-01246 US-PATENT-APPL-SN-249537 US-PATENT-CLASS-324-61 US-PATENT-3,324,388
N70-42000*	c 05	NASA-CASE-XMS-03371 US-PATENT-APPL-SN-418931 US-PATENT-CLASS-73-432 US-PATENT-3,323,370	N71-10658*	c 15	NASA-CASE-XMS-03252 US-PATENT-APPL-SN-425362 US-PATENT-CLASS-60-54.5 US-PATENT-3,318,093	N71-10798*	c 09	NASA-CASE-XMS-00945 US-PATENT-APPL-SN-385530 US-PATENT-CLASS-330-22 US-PATENT-3,319,175
N70-42003*	c 32	NASA-CASE-XLA-02131 US-PATENT-APPL-SN-377777 US-PATENT-CLASS-73-90 US-PATENT-3,304,768	N71-10659*	c 09	NASA-CASE-XNP-01383 US-PATENT-APPL-SN-369336 US-PATENT-CLASS-324-77 US-PATENT-3,317,832	N71-10799*	c 15	NASA-CASE-XLA-01807 US-PATENT-APPL-SN-442558 US-PATENT-CLASS-287-189.36 US-PATENT-3,318,622
N70-42015*	c 31	NASA-CASE-XLA-01967 US-PATENT-APPL-SN-457875 US-PATENT-CLASS-244-135 US-PATENT-3,321,159	N71-10672*	c 15	NASA-CASE-XLA-01091 US-PATENT-APPL-SN-351259 US-PATENT-CLASS-264-102 US-PATENT-3,317,641	N71-10809*	c 15	NASA-CASE-XMF-02107 US-PATENT-APPL-SN-384811 US-PATENT-CLASS-140-124 US-PATENT-3,318,343
N70-42016*	c 02	NASA-CASE-XLA-01290 US-PATENT-APPL-SN-393451 US-PATENT-CLASS-244-42 US-PATENT-3,321,157	N71-10673*	c 09	NASA-CASE-XGS-01473 US-PATENT-APPL-SN-364867 US-PATENT-CLASS-307-88.5 US-PATENT-3,317,751	N71-11037*	c 02	NASA-CASE-XLA-06824-2 US-PATENT-APPL-SN-775966 US-PATENT-CLASS-244-31 US-PATENT-3,508,724
N70-42017*	c 15	NASA-CASE-XMS-04072 US-PATENT-APPL-SN-485960 US-PATENT-CLASS-30-228 US-PATENT-3,320,669	N71-10676*	c 07	NASA-CASE-XNP-03134 US-PATENT-APPL-SN-422095 US-PATENT-CLASS-333-21 US-PATENT-3,324,423	N71-11038*	c 02	NASA-CASE-XLA-06958 US-PATENT-APPL-SN-551815 US-PATENT-CLASS-244-44 US-PATENT-3,310,261
N70-42032*	c 10	NASA-CASE-XNP-02654 US-PATENT-APPL-SN-435387 US-PATENT-CLASS-307-88.5 US-PATENT-3,321,645	N71-10677*	c 09	NASA-CASE-XGS-01451 US-PATENT-APPL-SN-405629 US-PATENT-CLASS-318-138 US-PATENT-3,324,370	N71-11039*	c 02	NASA-CASE-MS-12111-1 US-PATENT-APPL-SN-775877 US-PATENT-CLASS-244-23 US-PATENT-3,490,721
N70-42033*	c 15	NASA-CASE-XNP-02092 US-PATENT-APPL-SN-371856 US-PATENT-CLASS-156-345 US-PATENT-3,323,967	N71-10678*	c 21	NASA-CASE-XGS-01159 US-PATENT-APPL-SN-332313 US-PATENT-CLASS-250-203 US-PATENT-3,311,748	N71-11041* #	c 02	NASA-CASE-XLA-03659 US-PATENT-APPL-SN-444087 US-PATENT-CLASS-244-46 US-PATENT-3,270,989
N70-42034*	c 15	NASA-CASE-XNP-01412 US-PATENT-APPL-SN-426702 US-PATENT-CLASS-175-310 US-PATENT-3,321,034	N71-10728*	c 03	NASA-CASE-XNP-01464 US-PATENT-APPL-SN-430778 US-PATENT-CLASS-136-182 US-PATENT-3,317,352	N71-11043*	c 02	NASA-CASE-XLA-08801-1 US-PATENT-APPL-SN-710533 US-PATENT-CLASS-244-43 US-PATENT-3,493,197
N70-42073*	c 03	NASA-CASE-XFR-04104 US-PATENT-APPL-SN-476759 US-PATENT-CLASS-74-471 US-PATENT-3,323,386	N71-10746*	c 11	NASA-CASE-XMS-02977 US-PATENT-APPL-SN-416938 US-PATENT-CLASS-35-12 US-PATENT-3,281,963	N71-11049*	c 03	NASA-CASE-NPO-10109 US-PATENT-APPL-SN-701654 US-PATENT-CLASS-136-89 US-PATENT-3,532,551
N70-42074*	c 14	NASA-CASE-XLE-02998 US-PATENT-APPL-SN-516794 US-PATENT-CLASS-116-117 US-PATENT-3,323,484	N71-10747*	c 31	NASA-CASE-XMF-00442 US-PATENT-APPL-SN-202030 US-PATENT-CLASS-343-705 US-PATENT-3,277,486	N71-11050*	c 03	NASA-CASE-XNP-06506 US-PATENT-APPL-SN-577778 US-PATENT-CLASS-136-89 US-PATENT-3,446,676
N70-42075*	c 31	NASA-CASE-XMS-02677 US-PATENT-APPL-SN-472066 US-PATENT-CLASS-244-1 US-PATENT-3,321,154	N71-10748*	c 11	NASA-CASE-XFR-04147 US-PATENT-APPL-SN-476761 US-PATENT-CLASS-35-12 US-PATENT-3,281,965	N71-11051*	c 03	NASA-CASE-XNP-03378 US-PATENT-APPL-SN-360878 US-PATENT-CLASS-136-170 US-PATENT-3,282,740
N71-10500*	c 14	NASA-CASE-XLE-01609 US-PATENT-APPL-SN-438797 US-PATENT-CLASS-73-290 US-PATENT-3,326,043	N71-10771*	c 21	NASA-CASE-XNP-03914 US-PATENT-APPL-SN-468647 US-PATENT-CLASS-250-203 US-PATENT-3,317,731	N71-11052*	c 03	NASA-CASE-XLE-04526 US-PATENT-APPL-SN-640457 US-PATENT-CLASS-136-86 US-PATENT-3,507,704
N71-10560*	c 24	NASA-CASE-XLE-00808 US-PATENT-APPL-SN-307269 US-PATENT-CLASS-148-188 US-PATENT-3,310,443	N71-10772*	c 18	NASA-CASE-XLE-01765 US-PATENT-APPL-SN-316477 US-PATENT-CLASS-117-65.2 US-PATENT-3,317,341	N71-11053*	c 03	NASA-CASE-XGS-00886 US-PATENT-APPL-SN-319894 US-PATENT-CLASS-136-132 US-PATENT-3,282,739
N71-10574*	c 28	NASA-CASE-XLE-01902 US-PATENT-APPL-SN-485656 US-PATENT-CLASS-60-202 US-PATENT-3,324,659	N71-10773*	c 14	NASA-CASE-XLA-02605 US-PATENT-APPL-SN-459138 US-PATENT-CLASS-177-210 US-PATENT-3,316,991	N71-11055*	c 03	NASA-CASE-XMF-05843 US-PATENT-APPL-SN-666553 US-PATENT-CLASS-310-4 US-PATENT-3,509,386
N71-10577*	c 15	NASA-CASE-XLE-04677 US-PATENT-APPL-SN-447928 US-PATENT-CLASS-220-67 US-PATENT-3,326,407	N71-10774*	c 14	NASA-CASE-XLA-01131 US-PATENT-APPL-SN-322545 US-PATENT-CLASS-73-23 US-PATENT-3,312,101	N71-11056*	c 03	NASA-CASE-XNP-05821 US-PATENT-APPL-SN-545223 US-PATENT-CLASS-136-89 US-PATENT-3,493,437
N71-10578*	c 10	NASA-CASE-XMS-01554 US-PATENT-APPL-SN-414482 US-PATENT-CLASS-323-8 US-PATENT-3,325,723	N71-10775*	c 07	NASA-CASE-XLA-00901 US-PATENT-APPL-SN-269212 US-PATENT-CLASS-325-305 US-PATENT-3,311,832	N71-11057*	c 03	NASA-CASE-MS-13112 US-PATENT-APPL-SN-765738 US-PATENT-CLASS-290-40 US-PATENT-3,508,070
N71-10582*	c 31	NASA-CASE-XLA-02132 US-PATENT-APPL-SN-453227 US-PATENT-CLASS-102-49 US-PATENT-3,286,630	N71-10776*	c 11	NASA-CASE-XLA-03127 US-PATENT-APPL-SN-447927 US-PATENT-CLASS-35-12 US-PATENT-3,281,964	N71-11058*	c 03	NASA-CASE-XGS-01475 US-PATENT-APPL-SN-344793 US-PATENT-CLASS-244-1 US-PATENT-3,459,391
N71-10604*	c 11	NASA-CASE-XMF-03248 US-PATENT-APPL-SN-377780 US-PATENT-CLASS-73-116 US-PATENT-3,310,980	N71-10777*	c 11	NASA-CASE-XLE-01533 US-PATENT-APPL-SN-334678 US-PATENT-CLASS-55-400 US-PATENT-3,282,035	N71-11189*	c 05	NASA-CASE-XFR-10856 US-PATENT-APPL-SN-626376 US-PATENT-3,534,727
N71-10607*	c 26	NASA-CASE-XLE-02792 US-PATENT-APPL-SN-352400 US-PATENT-CLASS-148-1.5 US-PATENT-3,311,510	N71-10778*	c 15	NASA-CASE-XNP-00710 US-PATENT-APPL-SN-271821 US-PATENT-CLASS-251-61 US-PATENT-3,317,180	N71-11190*	c 05	NASA-CASE-XMS-04935 US-PATENT-APPL-SN-518487 US-PATENT-CLASS-128-142.5 US-PATENT-3,502,074
N71-10608*	c 03	NASA-CASE-XGS-03505 US-PATENT-APPL-SN-498167 US-PATENT-CLASS-136-28 US-PATENT-3,311,502	N71-10779*	c 14	NASA-CASE-XMF-02307 US-PATENT-APPL-SN-422869 US-PATENT-CLASS-73-40.5 US-PATENT-3,316,752	N71-11193*	c 05	NASA-CASE-ARC-10043-1 US-PATENT-APPL-SN-676012 US-PATENT-CLASS-128-2.1 US-PATENT-3,508,541
N71-10609*	c 07	NASA-CASE-XGS-01223 US-PATENT-APPL-SN-319892 US-PATENT-CLASS-242-55.19	N71-10780*	c 28	NASA-CASE-XLA-01043 US-PATENT-APPL-SN-379768 US-PATENT-CLASS-60-225	N71-11194*	c 05	NASA-CASE-XLA-05332 US-PATENT-APPL-SN-757861 US-PATENT-CLASS-2-2.1 US-PATENT-3,534,407

N71-11195*	c 05	NASA-CASE-LAR-10007-1 US-PATENT-APPL-SN-770203 US-PATENT-CLASS-2-2.1 US-PATENT-3,534,406	N71-12258*	c 03	NASA-CASE-XLA-00711 US-PATENT-APPL-SN-357334 US-PATENT-CLASS-89-1.7 US-PATENT-3,249,012	N71-12506*	c 08	NASA-CASE-XNP-08832 US-PATENT-APPL-SN-681692 US-PATENT-CLASS-340-172.5 US-PATENT-3,535,696
N71-11199*	c 05	NASA-CASE-XKS-02342 US-PATENT-APPL-SN-407603 US-PATENT-CLASS-182-191 US-PATENT-3,262,518	N71-12259*	c 03	NASA-CASE-XLA-01396 US-PATENT-APPL-SN-357336 US-PATENT-CLASS-89-1.7 US-PATENT-3,249,013	N71-12507*	c 08	NASA-CASE-XLA-01952 US-PATENT-APPL-SN-676386 US-PATENT-CLASS-340-324 US-PATENT-3,537,096
N71-11202*	c 05	NASA-CASE-XFR-08403 US-PATENT-APPL-SN-704420 US-PATENT-CLASS-73-23 US-PATENT-3,507,146	N71-12260*	c 03	NASA-CASE-XNP-01020 US-PATENT-APPL-SN-430780 US-PATENT-CLASS-60-97 US-PATENT-3,238,730	N71-12513*	c 09	NASA-CASE-XGS-07801 US-PATENT-APPL-SN-640452 US-PATENT-CLASS-148-188 US-PATENT-3,490,965
N71-11203*	c 05	NASA-CASE-XMS-09632-1 US-PATENT-APPL-SN-791693 US-PATENT-CLASS-128-142.5 US-PATENT-3,500,827	N71-12335*	c 05	NASA-CASE-XMS-00784 US-PATENT-APPL-SN-358127 US-PATENT-CLASS-2-2.1 US-PATENT-3,286,274	N71-12514*	c 09	NASA-CASE-XLA-07497 US-PATENT-APPL-SN-631848 US-PATENT-CLASS-307-252 US-PATENT-3,491,255
N71-11207*	c 05	NASA-CASE-XLA-03213 US-PATENT-APPL-SN-621715 US-PATENT-CLASS-202-182 US-PATENT-3,444,051	N71-12336*	c 05	NASA-CASE-XMS-05304 US-PATENT-APPL-SN-511567 US-PATENT-CLASS-244-4 US-PATENT-3,270,986	N71-12515*	c 09	NASA-CASE-XNP-08836 US-PATENT-APPL-SN-668968 US-PATENT-CLASS-340-174 US-PATENT-3,535,702
N71-11235*	c 06	NASA-CASE-XLA-03104 US-PATENT-APPL-SN-510155 US-PATENT-CLASS-260-78 US-PATENT-3,518,232	N71-12341*	c 05	NASA-CASE-MFS-14671 US-PATENT-APPL-SN-723476 US-PATENT-CLASS-297-385 US-PATENT-3,516,711	N71-12516*	c 09	NASA-CASE-XNP-09768 US-PATENT-APPL-SN-698629 US-PATENT-CLASS-307-243 US-PATENT-3,535,554
N71-11236*	c 06	NASA-CASE-XMF-08651 US-PATENT-APPL-SN-593594 US-PATENT-CLASS-260-72.5 US-PATENT-3,526,611	N71-12342*	c 05	NASA-CASE-XAC-05706 US-PATENT-APPL-SN-592694 US-PATENT-CLASS-325-143 US-PATENT-3,453,546	N71-12517*	c 09	NASA-CASE-XAC-10606-i US-PATENT-APPL-SN-710561 US-PATENT-CLASS-333-80 US-PATENT-3,493,901
N71-11237*	c 06	NASA-CASE-XMF-10753 US-PATENT-APPL-SN-668751 US-PATENT-CLASS-260-46.5 US-PATENT-3,444,127	N71-12343*	c 05	NASA-CASE-MS-11253 US-PATENT-APPL-SN-695973 US-PATENT-CLASS-297-68 US-PATENT-3,466,085	N71-12518*	c 09	NASA-CASE-XNP-09808 US-PATENT-APPL-SN-692471 US-PATENT-CLASS-200-61.42 US-PATENT-3,488,461
N71-11238*	c 06	NASA-CASE-XLA-08802 US-PATENT-APPL-SN-640454 US-PATENT-CLASS-260-78 US-PATENT-3,532,673	N71-12344*	c 05	NASA-CASE-XMS-09636 US-PATENT-APPL-SN-586330 US-PATENT-CLASS-2-2.1 US-PATENT-3,492,672	N71-12519*	c 09	NASA-CASE-XMF-06519 US-PATENT-APPL-SN-656952 US-PATENT-CLASS-328-110 US-PATENT-3,535,644
N71-11239*	c 06	NASA-CASE-XMF-08655 US-PATENT-APPL-SN-593593 US-PATENT-CLASS-260-72.5 US-PATENT-3,516,970	N71-12345*	c 05	NASA-CASE-MS-12086-1 US-PATENT-APPL-SN-812999 US-PATENT-CLASS-29-400 US-PATENT-3,490,130	N71-12520*	c 09	NASA-CASE-NPO-10230 US-PATENT-APPL-SN-691735 US-PATENT-CLASS-307-229 US-PATENT-3,535,446
N71-11240*	c 06	NASA-CASE-MFS-13994-1 US-PATENT-APPL-SN-715975 US-PATENT-CLASS-260-46.5 US-PATENT-3,516,964	N71-12346*	c 05	NASA-CASE-XMS-04212-1 US-PATENT-APPL-SN-607461 US-PATENT-CLASS-128-2.1 US-PATENT-3,490,440	N71-12521*	c 09	NASA-CASE-ARC-10030 US-PATENT-APPL-SN-679865 US-PATENT-CLASS-313-110 US-PATENT-3,493,805
N71-11242*	c 06	NASA-CASE-XMF-08656 US-PATENT-APPL-SN-593605 US-PATENT-CLASS-260-2.5 US-PATENT-3,493,524	N71-12351*	c 05	NASA-CASE-LAR-10056 US-PATENT-APPL-SN-674357 US-PATENT-CLASS-224-25 US-PATENT-3,493,153	N71-12526*	c 09	NASA-CASE-MS-12135-1 US-PATENT-APPL-SN-761404 US-PATENT-CLASS-317-31 US-PATENT-3,448,341
N71-11243*	c 06	NASA-CASE-XMF-08652 US-PATENT-APPL-SN-593606 US-PATENT-CLASS-260-2 US-PATENT-3,493,522	N71-12389*	c 07	NASA-CASE-XLA-01090 US-PATENT-APPL-SN-741824 US-PATENT-CLASS-250-199 US-PATENT-RE-26,548	N71-12539*	c 09	NASA-CASE-ERC-10552 US-PATENT-APPL-SN-720125 US-PATENT-CLASS-178-7.7 US-PATENT-3,535,446
N71-11266*	c 07	NASA-CASE-XLA-03076 US-PATENT-APPL-SN-591004 US-PATENT-CLASS-325-42 US-PATENT-3,508,152	N71-12390*	c 07	NASA-CASE-XER-09213 US-PATENT-APPL-SN-668302 US-PATENT-CLASS-332-9 US-PATENT-3,535,657	N71-12540*	c 09	NASA-CASE-XNP-01058 US-PATENT-APPL-SN-313136 US-PATENT-CLASS-315-160 US-PATENT-3,271,620
N71-11267*	c 07	NASA-CASE-XNP-10843 US-PATENT-APPL-SN-649358 US-PATENT-CLASS-325-363 US-PATENT-3,508,156	N71-12391*	c 07	NASA-CASE-XMS-05454-1 US-PATENT-APPL-SN-771803 US-PATENT-CLASS-343-17.7 US-PATENT-3,471,858	N71-12554*	c 10	NASA-CASE-NPO-10348 US-PATENT-APPL-SN-704668 US-PATENT-CLASS-324-95 US-PATENT-3,532,979
N71-11281*	c 07	NASA-CASE-XNP-10830 US-PATENT-APPL-SN-692332 US-PATENT-CLASS-178-69.5 US-PATENT-3,535,451	N71-12392*	c 07	NASA-CASE-XGS-01590 US-PATENT-APPL-SN-584067 US-PATENT-CLASS-178-88 US-PATENT-3,491,202	N71-13410*	c 01	NASA-CASE-XLA-00755 US-PATENT-APPL-SN-247423 US-PATENT-CLASS-244-35 US-PATENT-3,270,988
N71-11282*	c 07	NASA-CASE-XGS-02889 US-PATENT-APPL-SN-685748 US-PATENT-CLASS-329-104 US-PATENT-3,501,704	N71-12396*	c 07	NASA-CASE-GSC-10452 US-PATENT-APPL-SN-797794 US-PATENT-CLASS-343-776 US-PATENT-3,495,262	N71-13411*	c 01	NASA-CASE-XLA-05828 US-PATENT-APPL-SN-509460 US-PATENT-CLASS-235-61.6 US-PATENT-3,500,020
N71-11284*	c 07	NASA-CASE-XLA-01552 US-PATENT-APPL-SN-332339 US-PATENT-CLASS-325-65 US-PATENT-3,277,375	N71-12494*	c 08	NASA-CASE-XGS-04767 US-PATENT-APPL-SN-645584 US-PATENT-CLASS-307-296 US-PATENT-3,535,560	N71-13421*	c 02	NASA-CASE-XFR-00756 US-PATENT-APPL-SN-212173 US-PATENT-CLASS-235-150.22 US-PATENT-3,258,582
N71-11285*	c 07	NASA-CASE-NPO-10539 US-PATENT-APPL-SN-743429 US-PATENT-CLASS-343-779 US-PATENT-3,534,375	N71-12500*	c 08	NASA-CASE-XNP-07040 US-PATENT-APPL-SN-649357 US-PATENT-CLASS-332-31 US-PATENT-3,535,658	N71-13422*	c 02	NASA-CASE-XLA-06339 US-PATENT-APPL-SN-801336 US-PATENT-CLASS-244-76 US-PATENT-3,534,930
N71-11298*	c 07	NASA-CASE-XMF-01160 US-PATENT-APPL-SN-310507 US-PATENT-CLASS-340-198 US-PATENT-3,243,791	N71-12501*	c 08	NASA-CASE-XLA-00670 US-PATENT-APPL-SN-235162 US-PATENT-CLASS-340-347 US-PATENT-3,251,053	N71-13461*	c 06	NASA-CASE-LAR-10180-1 US-PATENT-APPL-SN-709398 US-PATENT-CLASS-250-41.9 US-PATENT-3,521,054
N71-11300*	c 07	NASA-CASE-XMS-07168 US-PATENT-APPL-SN-769788 US-PATENT-CLASS-178-6.6 US-PATENT-3,493,677	N71-12502*	c 08	NASA-CASE-NPO-10112 US-PATENT-APPL-SN-673226 US-PATENT-CLASS-340-172.5 US-PATENT-3,533,074	N71-13486*	c 09	NASA-CASE-MFS-20333 US-PATENT-APPL-SN-820965 US-PATENT-CLASS-307-149 US-PATENT-3,535,543
N71-11766*	c 21	NASA-CASE-LAR-10403 US-PATENT-APPL-SN-676391 US-PATENT-CLASS-343-6.5 US-PATENT-3,447,154	N71-12503*	c 08	NASA-CASE-NPO-10351 US-PATENT-APPL-SN-712065 US-PATENT-CLASS-328-37 US-PATENT-3,535,642	N71-13518*	c 09	NASA-CASE-MS-12178-1 US-PATENT-APPL-SN-845365 US-PATENT-CLASS-315-241 US-PATENT-3,530,336
N71-12217* #	c 01	NASA-CASE-FRC-10063 US-PATENT-APPL-SN-21263 US-PATENT-CLASS-340-0451 US-PATENT-APPL-SN-457876	N71-12504*	c 08	NASA-CASE-XMF-05835 US-PATENT-APPL-SN-627257 US-PATENT-CLASS-340-174 US-PATENT-3,493,942	N71-13521*	c 09	NASA-CASE-XKS-09348 US-PATENT-APPL-SN-677505 US-PATENT-CLASS-343-703 US-PATENT-3,526,897
N71-12243*	c 02	NASA-CASE-XLA-04451 US-PATENT-APPL-SN-457876 US-PATENT-CLASS-244-45 US-PATENT-3,310,262	N71-12505*	c 08	NASA-CASE-XNP-05415 US-PATENT-APPL-SN-578932	N71-13522*	c 09	NASA-CASE-LEW-10364-1 US-PATENT-APPL-SN-822518
N71-12255*	c 03	NASA-CASE-NPO-10404 US-PATENT-APPL-SN-728234						

		US-PATENT-CLASS-317-258			US-PATENT-CLASS-350-3.5			US-PATENT-CLASS-60-35.6
		US-PATENT-3,535,602			US-PATENT-3,535,013			US-PATENT-3,270,503
N71-13530*	c 09	NASA-CASE-XNP-00384	N71-15562*	c 25	NASA-CASE-XLA-03374	N71-15625*	c 33	NASA-CASE-XLE-01399
		US-PATENT-APPL-SN-180392			US-PATENT-APPL-SN-793770			US-PATENT-APPL-SN-320233
		US-PATENT-CLASS-324-132			US-PATENT-CLASS-315-111			US-PATENT-CLASS-13-26
N71-13531*	c 09	US-PATENT-3,263,171	N71-15563*	c 28	US-PATENT-3,535,586	N71-15634*	c 27	US-PATENT-3,263,016
		NASA-CASE-MSC-12033-1			NASA-CASE-XLA-02865			NASA-CASE-XLE-01988
		US-PATENT-APPL-SN-602828			US-PATENT-APPL-SN-416946			US-PATENT-APPL-SN-308918
		US-PATENT-CLASS-330-11			US-PATENT-CLASS-244-53			US-PATENT-CLASS-60-35.6
N71-13537*	c 10	US-PATENT-3,526,845	N71-15565*	c 16	US-PATENT-3,270,990	N71-15635*	c 27	US-PATENT-3,258,912
		NASA-CASE-XNP-08274			NASA-CASE-MFS-20074			NASA-CASE-XLE-01182
		US-PATENT-APPL-SN-730703			US-PATENT-APPL-SN-801312			US-PATENT-APPL-SN-411949
		US-PATENT-CLASS-73-382			US-PATENT-CLASS-350-3.5			US-PATENT-CLASS-60-39.46
N71-13545*	c 10	US-PATENT-3,520,190	N71-15566*	c 31	US-PATENT-3,535,014	N71-15637*	c 31	US-PATENT-3,258,918
		NASA-CASE-LAR-10774			NASA-CASE-XKS-08012-2			NASA-CASE-XLE-01640
		US-PATENT-APPL-SN-802820			US-PATENT-APPL-SN-874958			US-PATENT-APPL-SN-473535
		US-PATENT-CLASS-73-1			US-PATENT-CLASS-340-172.5			US-PATENT-CLASS-60-35.6
N71-13789*	c 15	US-PATENT-3,534,584	N71-15567*	c 16	US-PATENT-3,535,683	N71-15641*	c 33	US-PATENT-3,270,504
		NASA-CASE-XLA-01141			NASA-CASE-ERC-10017			NASA-CASE-XNP-09802
		US-PATENT-APPL-SN-353632			US-PATENT-APPL-SN-677506			US-PATENT-APPL-SN-673229
		US-PATENT-CLASS-102-49			US-PATENT-CLASS-350-3.5			US-PATENT-CLASS-73-190
N71-13958*	c 21	US-PATENT-3,263,610	N71-15568*	c 33	US-PATENT-3,535,012	N71-15642*	c 21	US-PATENT-3,531,989
		NASA-CASE-GSC-10087-2			NASA-CASE-XLE-09475-1			NASA-CASE-XGS-03431
		US-PATENT-APPL-SN-701744			US-PATENT-APPL-SN-710945			US-PATENT-APPL-SN-588635
		US-PATENT-CLASS-343-112			US-PATENT-CLASS-136-228			US-PATENT-CLASS-250-203
N71-14014*	c 18	US-PATENT-3,495,260	N71-15571*	c 15	US-PATENT-3,535,165	N71-15643*	c 31	US-PATENT-3,488,504
		NASA-CASE-GSC-10072			NASA-CASE-XLA-07911			NASA-CASE-NPO-10311
		US-PATENT-APPL-SN-686296			US-PATENT-APPL-SN-660572			US-PATENT-APPL-SN-725475
		US-PATENT-CLASS-106-15			US-PATENT-CLASS-33-207			US-PATENT-CLASS-73-116
N71-14032*	c 33	US-PATENT-3,493,401	N71-15582*	c 21	US-PATENT-3,492,739	N71-15644*	c 17	US-PATENT-3,534,597
		NASA-CASE-XLE-05913			NASA-CASE-XLA-01163			NASA-CASE-XLE-00726
		US-PATENT-APPL-SN-551933			US-PATENT-APPL-SN-405632			US-PATENT-APPL-SN-355122
		US-PATENT-CLASS-117-106			US-PATENT-CLASS-60-35.55			US-PATENT-CLASS-75-170
N71-14035*	c 33	US-PATENT-3,490,939	N71-15583*	c 21	US-PATENT-3,270,505	N71-15647*	c 31	US-PATENT-3,271,140
		NASA-CASE-XLE-03307			NASA-CASE-XMF-01598			NASA-CASE-XGS-01143
		US-PATENT-APPL-SN-613979			US-PATENT-APPL-SN-333770			US-PATENT-APPL-SN-349781
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-244-1			US-PATENT-CLASS-60-35.6
N71-14043*	c 28	US-PATENT-3,490,718	N71-15597*	c 15	US-PATENT-3,270,985	N71-15658*	c 28	US-PATENT-3,270,501
		NASA-CASE-XLE-01124			NASA-CASE-XLE-08917			NASA-CASE-XLE-00409
		US-PATENT-APPL-SN-312269			US-PATENT-APPL-SN-662829			US-PATENT-APPL-SN-249539
		US-PATENT-CLASS-60-35.5			US-PATENT-CLASS-113-116			US-PATENT-CLASS-29-157
N71-14044*	c 28	US-PATENT-3,238,715	N71-15598*	c 14	US-PATENT-3,490,405	N71-15659*	c 28	US-PATENT-3,254,395
		NASA-CASE-XGS-08729			NASA-CASE-XAC-00812			NASA-CASE-XLE-05689
		US-PATENT-APPL-SN-667637			US-PATENT-APPL-SN-255132			US-PATENT-APPL-SN-491845
		US-PATENT-CLASS-60-200			US-PATENT-CLASS-73-341			US-PATENT-CLASS-60-35.60
N71-14058*	c 28	US-PATENT-3,490,235	N71-15599*	c 14	US-PATENT-3,238,777	N71-15660*	c 28	US-PATENT-3,254,487
		NASA-CASE-MSC-12139-1			NASA-CASE-XNP-04161			NASA-CASE-XMF-00968
		US-PATENT-APPL-SN-797796			US-PATENT-APPL-SN-568356			US-PATENT-APPL-SN-339825
		US-PATENT-CLASS-103-37			US-PATENT-CLASS-250-83.3			US-PATENT-CLASS-60-35.6
N71-14090*	c 27	US-PATENT-3,492,947	N71-15600*	c 14	US-PATENT-3,444,375	N71-15661*	c 28	US-PATENT-3,270,499
		NASA-CASE-LAR-10173-1			NASA-CASE-XKS-06250			NASA-CASE-XLE-02065
		US-PATENT-APPL-SN-758942			US-PATENT-APPL-SN-649075			US-PATENT-APPL-SN-426455
		US-PATENT-CLASS-149-19			US-PATENT-CLASS-73-97			US-PATENT-CLASS-60-35.5
N71-14132*	c 21	US-PATENT-3,492,176	N71-15604*	c 14	US-PATENT-3,492,862	N71-15663*	c 31	US-PATENT-3,262,262
		NASA-CASE-XLA-05464			NASA-CASE-NPO-10337			NASA-CASE-XLA-00256
		US-PATENT-APPL-SN-656995			US-PATENT-APPL-SN-714296			US-PATENT-APPL-SN-333766
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-350-58			US-PATENT-CLASS-244-1
N71-14159*	c 21	US-PATENT-3,493,194	N71-15605*	c 14	US-PATENT-3,488,103	N71-15664*	c 31	US-PATENT-3,262,655
		NASA-CASE-XGS-04393			NASA-CASE-GSC-10062			NASA-CASE-XLA-01332
		US-PATENT-APPL-SN-700142			US-PATENT-APPL-SN-658955			US-PATENT-APPL-SN-250974
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-350-285			US-PATENT-CLASS-220-15
N71-14354*	c 26	US-PATENT-3,490,719	N71-15606*	c 15	US-PATENT-3,493,294	N71-15673*	c 23	US-PATENT-3,270,908
		NASA-CASE-ERC-10138			NASA-CASE-XNP-06031			NASA-CASE-XMS-01620
		US-PATENT-APPL-SN-821586			US-PATENT-APPL-SN-590144			US-PATENT-APPL-SN-357340
		US-PATENT-CLASS-225-2			US-PATENT-CLASS-250-52			US-PATENT-CLASS-248-358
N71-14932*	c 15	US-PATENT-3,493,155	N71-15607*	c 15	US-PATENT-3,493,746	N71-15674*	c 31	US-PATENT-3,243,154
		NASA-CASE-LEW-11531			NASA-CASE-XMF-03287			NASA-CASE-XLA-03691
		US-PATENT-APPL-SN-643332			US-PATENT-APPL-SN-658956			US-PATENT-APPL-SN-667625
		US-PATENT-CLASS-219-72			US-PATENT-CLASS-228-7			US-PATENT-CLASS-244-1
N71-14996*	c 14	US-PATENT-3,493,711	N71-15608*	c 15	US-PATENT-3,443,732	N71-15675*	c 31	US-PATENT-3,534,924
		NASA-CASE-XLA-00936			NASA-CASE-NPO-10117			NASA-CASE-XMF-03169
		US-PATENT-APPL-SN-282818			US-PATENT-APPL-SN-668238			US-PATENT-APPL-SN-375405
		US-PATENT-CLASS-73-170			US-PATENT-CLASS-138-42			US-PATENT-CLASS-89-1.5
N71-15467*	c 23	US-PATENT-3,238,774	N71-15609*	c 15	US-PATENT-3,493,012	N71-15676*	c 31	US-PATENT-3,262,365
		NASA-CASE-XNP-03796			NASA-CASE-XMF-04709			NASA-CASE-XGS-05579
		US-PATENT-APPL-SN-453231			US-PATENT-APPL-SN-683507			US-PATENT-APPL-SN-719869
		US-PATENT-CLASS-62-6			US-PATENT-CLASS-137-81.5			US-PATENT-CLASS-244-1
N71-15468*	c 17	US-PATENT-3,260,055	N71-15610*	c 15	US-PATENT-3,493,003	N71-15687*	c 31	US-PATENT-3,534,925
		NASA-CASE-LEW-10393-1			NASA-CASE-XLE-01604-2			NASA-CASE-XLA-05369
		US-PATENT-APPL-SN-644799			US-PATENT-APPL-SN-683613			US-PATENT-APPL-SN-765123
		US-PATENT-CLASS-75-202			US-PATENT-CLASS-117-50			US-PATENT-CLASS-102-49.5
N71-15469*	c 18	US-PATENT-3,535,110	N71-15620*	c 14	US-PATENT-3,493,415	N71-15688*	c 18	US-PATENT-3,534,686
		NASA-CASE-ARC-10099-1			NASA-CASE-XLA-01926			NASA-CASE-XNP-03459-2
		US-PATENT-APPL-SN-704224			US-PATENT-APPL-SN-784521			US-PATENT-APPL-SN-681942
		US-PATENT-CLASS-106-15			US-PATENT-CLASS-340-57			US-PATENT-CLASS-260-404.5
N71-15545*	c 18	US-PATENT-3,535,130	N71-15621*	c 14	US-PATENT-3,491,335	N71-15689*	c 31	US-PATENT-3,535,352
		NASA-CASE-XMS-09691-1			NASA-CASE-XNP-09572			NASA-CASE-MFS-14685
		US-PATENT-APPL-SN-738119			US-PATENT-APPL-SN-660841			US-PATENT-APPL-SN-752947
		US-PATENT-CLASS-8-94.12			US-PATENT-CLASS-35-10.2			US-PATENT-CLASS-180-118
N71-15550*	c 16	US-PATENT-3,526,473	N71-15622*	c 14	US-PATENT-3,493,665	N71-15692*	c 31	US-PATENT-3,534,826
		NASA-CASE-XNP-05219			US-PATENT-APPL-SN-560969			NASA-CASE-XLA-01339
		US-PATENT-APPL-SN-336103			US-PATENT-CLASS-350-213			US-PATENT-APPL-SN-373591
		US-PATENT-CLASS-330-4			US-PATENT-3,493,291			US-PATENT-CLASS-102-49
N71-15551*	c 16	US-PATENT-3,299,364	N71-15623*	c 33	US-PATENT-3,493,291	N71-15871*	c 15	US-PATENT-3,260,204
		NASA-CASE-ERC-10019			NASA-CASE-XMS-01816			NASA-CASE-XMF-02039
		US-PATENT-APPL-SN-677508			US-PATENT-APPL-SN-425364			

		US-PATENT-APPL-SN-434143			US-PATENT-APPL-SN-304749			US-PATENT-APPL-SN-701732
		US-PATENT-CLASS-219-131			US-PATENT-CLASS-35-29			US-PATENT-CLASS-250-41.9
		US-PATENT-3,271,558			US-PATENT-3,270,441			US-PATENT-3,532,880
N71-15906*	c 15	NASA-CASE-XNP-00920	N71-16030*	c 10	NASA-CASE-XMF-01096	N71-16098*	c 23	NASA-CASE-XAC-03107
		US-PATENT-APPL-SN-329331			US-PATENT-APPL-SN-307270			US-PATENT-APPL-SN-538168
		US-PATENT-CLASS-62-2			US-PATENT-CLASS-318-376			US-PATENT-CLASS-73-505
		US-PATENT-3,270,512			US-PATENT-3,271,649			US-PATENT-3,455,171
N71-15907*	c 07	NASA-CASE-XNP-01057	N71-16031*	c 12	NASA-CASE-XMS-01445	N71-16099*	c 23	NASA-CASE-XGS-07514
		US-PATENT-APPL-SN-301683			US-PATENT-APPL-SN-385526			US-PATENT-APPL-SN-640453
		US-PATENT-CLASS-343-786			US-PATENT-CLASS-137-615			US-PATENT-CLASS-328-1
		US-PATENT-3,305,870			US-PATENT-3,308,848			US-PATENT-3,509,469
N71-15908*	c 08	NASA-CASE-XLA-02705	N71-16037*	c 26	NASA-CASE-XGS-05718	N71-16100*	c 23	NASA-CASE-XGS-05715
		US-PATENT-APPL-SN-473537			US-PATENT-APPL-SN-584071			US-PATENT-APPL-SN-668257
		US-PATENT-CLASS-129-16.7			US-PATENT-CLASS-29-472.9			US-PATENT-CLASS-250-233
		US-PATENT-3,310,054			US-PATENT-3,452,423			US-PATENT-3,532,894
N71-15909*	c 10	NASA-CASE-XAC-03777	N71-16042*	c 10	NASA-CASE-XAC-00942	N71-16101*	c 23	NASA-CASE-XNP-08883
		US-PATENT-APPL-SN-484489			US-PATENT-APPL-SN-310506			US-PATENT-APPL-SN-617021
		US-PATENT-CLASS-200-6			US-PATENT-CLASS-307-88.5			US-PATENT-CLASS-356-117
		US-PATENT-3,283,088			US-PATENT-3,277,314			US-PATENT-3,520,617
N71-15910*	c 10	NASA-CASE-XGS-00823	N71-16044*	c 17	NASA-CASE-XGS-06306	N71-16102*	c 31	NASA-CASE-XGS-09190
		US-PATENT-APPL-SN-336607			US-PATENT-APPL-SN-685473			US-PATENT-APPL-SN-647298
		US-PATENT-CLASS-307-88.5			US-PATENT-CLASS-156-3			US-PATENT-CLASS-343-915
		US-PATENT-3,283,175			US-PATENT-3,532,568			US-PATENT-3,521,290
N71-15918*	c 15	NASA-CASE-XMS-02383	N71-16046*	c 18	NASA-CASE-GSC-10007	N71-16103*	c 32	NASA-CASE-LAR-10317-1
		US-PATENT-APPL-SN-299042			US-PATENT-APPL-SN-627599			US-PATENT-APPL-SN-739927
		US-PATENT-CLASS-140-123			US-PATENT-CLASS-117-201			US-PATENT-CLASS-137-582
		US-PATENT-3,299,913			US-PATENT-3,532,538			US-PATENT-3,508,578
N71-15922*	c 15	NASA-CASE-XGS-01971	N71-16052*	c 15	NASA-CASE-XLE-02999	N71-16104*	c 33	NASA-CASE-XLE-00785
		US-PATENT-APPL-SN-353645			US-PATENT-APPL-SN-431235			US-PATENT-APPL-SN-666554
		US-PATENT-CLASS-85-33			US-PATENT-CLASS-29-148.4			US-PATENT-CLASS-60-108
		US-PATENT-3,262,351			US-PATENT-3,262,186			US-PATENT-3,508,402
N71-15925*	c 11	NASA-CASE-XLA-00378	N71-16057*	c 10	NASA-CASE-XNP-01193	N71-16105*	c 18	NASA-CASE-XLE-08511-2
		US-PATENT-APPL-SN-266107			US-PATENT-APPL-SN-366226			US-PATENT-APPL-SN-711921
		US-PATENT-CLASS-219-10.49			US-PATENT-CLASS-324-57			US-PATENT-CLASS-117-119
		US-PATENT-3,238,345			US-PATENT-3,277,366			US-PATENT-3,508,955
N71-15926*	c 11	NASA-CASE-XLA-00939	N71-16058*	c 10	NASA-CASE-XMF-01097	N71-16106*	c 32	NASA-CASE-XLA-04605
		US-PATENT-APPL-SN-309354			US-PATENT-APPL-SN-290873			US-PATENT-APPL-SN-619519
		US-PATENT-CLASS-73-147			US-PATENT-CLASS-340-227			US-PATENT-CLASS-137-582
		US-PATENT-3,276,251			US-PATENT-3,277,458			US-PATENT-3,443,584
N71-15960*	c 11	NASA-CASE-XAC-00731	N71-16073*	c 25	NASA-CASE-XAC-05695	N71-16124*	c 18	NASA-CASE-XMF-05279
		US-PATENT-APPL-SN-232318			US-PATENT-APPL-SN-634038			US-PATENT-APPL-SN-617774
		US-PATENT-CLASS-220-89			US-PATENT-CLASS-324-34			US-PATENT-CLASS-106-88
		US-PATENT-3,145,874			US-PATENT-3,517,302			US-PATENT-3,508,940
N71-15962*	c 14	NASA-CASE-XGS-01587	N71-16075*	c 15	NASA-CASE-XLA-00284	N71-16210*	c 18	NASA-CASE-XNP-08837
		US-PATENT-APPL-SN-298799			US-PATENT-APPL-SN-240760			US-PATENT-APPL-SN-691736
		US-PATENT-CLASS-324-43			US-PATENT-CLASS-117-69			US-PATENT-CLASS-204-20
		US-PATENT-3,258,687			US-PATENT-3,264,135			US-PATENT-3,526,580
N71-15966*	c 15	NASA-CASE-XLE-00953	N71-16076*	c 15	NASA-CASE-XLE-00106	N71-16212*	c 23	NASA-CASE-NPO-10250
		US-PATENT-APPL-SN-336320			US-PATENT-APPL-SN-629759			US-PATENT-APPL-SN-736848
		US-PATENT-CLASS-22-200			US-PATENT-CLASS-25-156			US-PATENT-CLASS-149-1
		US-PATENT-3,237,253			US-PATENT-2,944,316			US-PATENT-3,516,879
N71-15967*	c 15	NASA-CASE-XLE-00703	N71-16077*	c 15	NASA-CASE-XLA-00302	N71-16213*	c 24	NASA-CASE-XGS-06628
		US-PATENT-APPL-SN-271822			US-PATENT-APPL-SN-284266			US-PATENT-APPL-SN-665680
		US-PATENT-CLASS-137-13			US-PATENT-CLASS-117-46			US-PATENT-CLASS-315-111
		US-PATENT-3,270,756			US-PATENT-3,271,181			US-PATENT-3,509,419
N71-15968*	c 15	NASA-CASE-XLE-00586	N71-16078*	c 15	NASA-CASE-XGS-00824	N71-16221*	c 31	NASA-CASE-XLA-05906
		US-PATENT-APPL-SN-317391			US-PATENT-APPL-SN-379072			US-PATENT-APPL-SN-777766
		US-PATENT-CLASS-55-160			US-PATENT-CLASS-89-1			US-PATENT-CLASS-73-432
		US-PATENT-3,257,780			US-PATENT-3,309,961			US-PATENT-3,526,139
N71-15969*	c 14	NASA-CASE-XMF-01099	N71-16079*	c 15	NASA-CASE-XLA-00415	N71-16222*	c 31	NASA-CASE-MFS-11133
		US-PATENT-APPL-SN-73367			US-PATENT-APPL-SN-314074			US-PATENT-APPL-SN-693419
		US-PATENT-CLASS-73-517			US-PATENT-CLASS-233-11			US-PATENT-CLASS-244-1
		US-PATENT-3,261,210			US-PATENT-3,276,679			US-PATENT-3,508,723
N71-15974*	c 32	NASA-CASE-XMS-06782	N71-16080*	c 31	NASA-CASE-MSC-12049	N71-16223*	c 27	NASA-CASE-MFS-12750
		US-PATENT-APPL-SN-691739			US-PATENT-APPL-SN-693420			US-PATENT-APPL-SN-806149
		US-PATENT-CLASS-338-5			US-PATENT-CLASS-52-3			US-PATENT-CLASS-73-432
		US-PATENT-3,464,049			US-PATENT-3,465,482			US-PATENT-3,526,140
N71-15978*	c 23	NASA-CASE-XGS-00373	N71-16081*	c 31	NASA-CASE-XGS-03351	N71-16224*	c 28	NASA-CASE-MFS-11497
		US-PATENT-APPL-SN-105518			US-PATENT-APPL-SN-472747			US-PATENT-APPL-SN-730733
		US-PATENT-CLASS-161-189			US-PATENT-CLASS-244-31			US-PATENT-CLASS-239-265.43
		US-PATENT-3,276,946			US-PATENT-3,276,726			US-PATENT-3,526,365
N71-15986*	c 15	NASA-CASE-XMF-03498	N71-16085*	c 31	NASA-CASE-XLA-09881	N71-16277*	c 33	NASA-CASE-XMS-04268
		US-PATENT-APPL-SN-396443			US-PATENT-APPL-SN-710562			US-PATENT-APPL-SN-516160
		US-PATENT-CLASS-29-155.55			US-PATENT-CLASS-244-138			US-PATENT-CLASS-165-133
		US-PATENT-3,258,831			US-PATENT-3,520,503			US-PATENT-3,502,141
N71-15990*	c 30	NASA-CASE-XAC-08494	N71-16086*	c 09	NASA-CASE-XLE-02038	N71-16278*	c 33	NASA-CASE-XMF-04237
		US-PATENT-APPL-SN-690998			US-PATENT-APPL-SN-349782			US-PATENT-APPL-SN-539237
		US-PATENT-CLASS-356-74			US-PATENT-CLASS-73-147			US-PATENT-CLASS-219-364
		US-PATENT-3,532,428			US-PATENT-3,273,388			US-PATENT-3,517,162
N71-15992*	c 14	NASA-CASE-XGS-01052	N71-16087*	c 02	NASA-CASE-XAC-02058	N71-16281*	c 20	NASA-CASE-XLA-02081
		US-PATENT-APPL-SN-314572			US-PATENT-APPL-SN-342572			US-PATENT-APPL-SN-522795
		US-PATENT-CLASS-73-15			US-PATENT-CLASS-244-1			US-PATENT-CLASS-73-189
		US-PATENT-3,242,716			US-PATENT-3,276,722			US-PATENT-3,507,150
N71-16014*	c 14	NASA-CASE-XLE-00820	N71-16088*	c 07	NASA-CASE-XGS-01022	N71-16340*	c 20	NASA-CASE-XMF-14032
		US-PATENT-APPL-SN-228569			US-PATENT-APPL-SN-331323			US-PATENT-APPL-SN-679862
		US-PATENT-CLASS-324-32			US-PATENT-CLASS-325-4			US-PATENT-CLASS-250-209
		US-PATENT-3,283,241			US-PATENT-3,277,373			US-PATENT-3,501,641
N71-16025*	c 17	NASA-CASE-XLE-02991	N71-16089*	c 09	NASA-CASE-XAC-02405	N71-16341*	c 23	NASA-CASE-XGS-05291
		US-PATENT-APPL-SN-375401			US-PATENT-APPL-SN-433821			US-PATENT-APPL-SN-553891
		US-PATENT-CLASS-75-170			US-PATENT-CLASS-200-6			US-PATENT-CLASS-356-209
		US-PATENT-3,276,865			US-PATENT-3,271,532			US-PATENT-3,504,983
N71-16026*	c 17	NASA-CASE-XLE-02082	N71-16090*	c 30	NASA-CASE-GSC-10083-1	N71-16345*	c 31	NASA-CASE-XMF-05344
		US-PATENT-APPL-SN-360180			US-PATENT-APPL-SN-641431			US-PATENT-APPL-SN-702396
		US-PATENT-CLASS-75-171			US-PATENT-CLASS-343-6			US-PATENT-CLASS-244-1
		US-PATENT-3,276,866			US-PATENT-3,471,856			US-PATENT-3,520,496
N71-16028*	c 11	NASA-CASE-XLA-01787	N71-16095*	c 24	NASA-CASE-XAC-05506-1	N71-16346*	c 31	NASA-CASE-XMS-03613

		US-PATENT-APPL-SN-802816 US-PATENT-CLASS-244-1 US-PATENT-3,526,372				US-PATENT-APPL-SN-270118 US-PATENT-CLASS-230-162 US-PATENT-3,309,012			N71-17685*	c 15	NASA-CASE-NPO-10034 US-PATENT-APPL-SN-668241 US-PATENT-CLASS-339-17 US-PATENT-3,464,051
N71-16348*	c 27	NASA-CASE-MSC-12280 US-PATENT-APPL-SN-372648 US-PATENT-CLASS-250-43.5 US-PATENT-3,501,632	N71-17626*	c 14	NASA-CASE-LAR-10274-1 US-PATENT-APPL-SN-717052 US-PATENT-CLASS-188-1 US-PATENT-3,491,857	N71-17686*	c 15	NASA-CASE-MFS-20586 US-PATENT-APPL-SN-688868 US-PATENT-CLASS-29-428 US-PATENT-3,526,030			
N71-16355*	c 23	NASA-CASE-XGS-05534 US-PATENT-APPL-SN-578925 US-PATENT-CLASS-23-253 US-PATENT-3,520,660	N71-17627*	c 14	NASA-CASE-XGS-03532 US-PATENT-APPL-SN-538913 US-PATENT-CLASS-356-106 US-PATENT-3,488,123	N71-17687*	c 15	NASA-CASE-XLA-04143 US-PATENT-APPL-SN-628246 US-PATENT-CLASS-156-510 US-PATENT-3,508,999			
N71-16356*	c 33	NASA-CASE-NPO-10158 US-PATENT-APPL-SN-730702 US-PATENT-CLASS-73-343 US-PATENT-3,526,134	N71-17628*	c 15	NASA-CASE-MFS-10340 US-PATENT-APPL-SN-716734 US-PATENT-CLASS-225-1 US-PATENT-3,507,425	N71-17688*	c 15	NASA-CASE-XLE-09527 US-PATENT-APPL-SN-686344 US-PATENT-CLASS-29-148.4 US-PATENT-3,500,525			
N71-16357*	c 33	NASA-CASE-NPO-10138 US-PATENT-APPL-SN-759457 US-PATENT-CLASS-236-1 US-PATENT-3,526,359	N71-17629*	c 31	NASA-CASE-XLE-03583 US-PATENT-APPL-SN-400617 US-PATENT-CLASS-244-3.22 US-PATENT-3,276,376	N71-17691*	c 31	NASA-CASE-XLA-00937 US-PATENT-APPL-SN-393461 US-PATENT-CLASS-244-3.14 US-PATENT-3,310,258			
N71-16365*	c 23	NASA-CASE-XNP-08840 US-PATENT-APPL-SN-649360 US-PATENT-CLASS-356-36 US-PATENT-3,526,460	N71-17631*	c 12	NASA-CASE-NPO-10122 US-PATENT-APPL-SN-710949 US-PATENT-CLASS-60-217 US-PATENT-3,534,555	N71-17692*	c 15	NASA-CASE-MFS-14772 US-PATENT-APPL-SN-774151 US-PATENT-CLASS-74-63 US-PATENT-3,529,480			
N71-16392*	c 27	NASA-CASE-XNP-09744 US-PATENT-APPL-SN-685750 US-PATENT-CLASS-60-39.47 US-PATENT-3,507,114	N71-17645*	c 32	NASA-CASE-XNP-01153 US-PATENT-APPL-SN-336608 US-PATENT-CLASS-73-88 US-PATENT-3,273,381	N71-17693*	c 15	NASA-CASE-NPO-10064 US-PATENT-APPL-SN-668755 US-PATENT-CLASS-244-1 US-PATENT-3,501,112			
N71-16393*	c 17	NASA-CASE-NPO-10271 US-PATENT-APPL-SN-763869 US-PATENT-CLASS-21-207 US-PATENT-3,529,928	N71-17647*	c 15	NASA-CASE-XMF-01667 US-PATENT-APPL-SN-577115 US-PATENT-CLASS-118-11 US-PATENT-3,502,051	N71-17694*	c 15	NASA-CASE-XNP-08897 US-PATENT-APPL-SN-640450 US-PATENT-CLASS-318-22 US-PATENT-3,501,683			
N71-16428*	c 32	NASA-CASE-XLA-03135 US-PATENT-APPL-SN-582171 US-PATENT-CLASS-73-71.4 US-PATENT-3,503,251	N71-17648*	c 15	NASA-CASE-MSC-12116-1 US-PATENT-APPL-SN-768336 US-PATENT-CLASS-251-358 US-PATENT-3,508,739	N71-17696*	c 15	NASA-CASE-XLA-05100 US-PATENT-APPL-SN-724551 US-PATENT-CLASS-73-103 US-PATENT-3,487,680			
N71-16894*	c 12	NASA-CASE-XLA-02079 US-PATENT-APPL-SN-435756 US-PATENT-CLASS-188-87 US-PATENT-3,310,138	N71-17649*	c 15	NASA-CASE-MFS-11132 US-PATENT-APPL-SN-744910 US-PATENT-CLASS-248-360 US-PATENT-3,526,382	N71-17701*	c 14	NASA-CASE-NPO-10144 US-PATENT-APPL-SN-688805 US-PATENT-CLASS-73-29 US-PATENT-3,534,585			
N71-17569*	c 12	NASA-CASE-MSC-12084-1 US-PATENT-APPL-SN-762438 US-PATENT-CLASS-73-204 US-PATENT-3,500,686	N71-17650*	c 15	NASA-CASE-XMF-05114 US-PATENT-APPL-SN-637882 US-PATENT-CLASS-29-517 US-PATENT-3,507,034	N71-17705*	c 06	NASA-CASE-XGS-05532 US-PATENT-APPL-SN-570093 US-PATENT-CLASS-195-99 US-PATENT-3,423,290			
N71-17573*	c 12	NASA-CASE-LAR-10323-1 US-PATENT-APPL-SN-738314 US-PATENT-CLASS-73-45.5 US-PATENT-3,516,284	N71-17651*	c 15	NASA-CASE-XLE-03803-2 US-PATENT-APPL-SN-669336 US-PATENT-CLASS-156-172 US-PATENT-3,535,179	N71-17729*	c 31	NASA-CASE-XAC-01591 US-PATENT-APPL-SN-385527 US-PATENT-CLASS-244-1 US-PATENT-3,282,532			
N71-17574*	c 14	NASA-CASE-XGS-04993 US-PATENT-APPL-SN-577775 US-PATENT-CLASS-96-49 US-PATENT-3,458,313	N71-17652*	c 15	NASA-CASE-XLE-05079 US-PATENT-APPL-SN-601228 US-PATENT-CLASS-310-93 US-PATENT-3,493,797	N71-17730*	c 31	NASA-CASE-XMF-01543 US-PATENT-APPL-SN-402365 US-PATENT-CLASS-102-49 US-PATENT-3,286,629			
N71-17575*	c 14	NASA-CASE-XMF-06531 US-PATENT-APPL-SN-732917 US-PATENT-CLASS-204-195 US-PATENT-3,509,034	N71-17653*	c 15	NASA-CASE-ARC-10140-1 US-PATENT-APPL-SN-783379 US-PATENT-CLASS-24-211 US-PATENT-CLASS-85-3 US-PATENT-3,534,650	N71-17788*	c 30	NASA-CASE-XGS-00783 US-PATENT-APPL-SN-372438 US-PATENT-CLASS-73-432 US-PATENT-3,286,531			
N71-17578*	c 12	NASA-CASE-MFS-10412 US-PATENT-APPL-SN-701635 US-PATENT-CLASS-137-81.5 US-PATENT-3,520,317	N71-17654*	c 15	NASA-CASE-XNP-09702 US-PATENT-APPL-SN-730734 US-PATENT-CLASS-239-416 US-PATENT-3,534,909	N71-17802*	c 23	NASA-CASE-XLE-00454 US-PATENT-APPL-SN-295855 US-PATENT-CLASS-73-295 US-PATENT-3,273,392			
N71-17579*	c 12	NASA-CASE-XLA-07391 US-PATENT-APPL-SN-726898 US-PATENT-CLASS-137-81.5 US-PATENT-3,493,004	N71-17655*	c 14	NASA-CASE-NPO-10320 US-PATENT-APPL-SN-718689 US-PATENT-CLASS-356-106 US-PATENT-3,535,041	N71-17803*	c 15	NASA-CASE-XMS-05516 US-PATENT-APPL-SN-563648 US-PATENT-CLASS-264-92 US-PATENT-3,488,414			
N71-17584*	c 14	NASA-CASE-XNP-09462 US-PATENT-APPL-SN-658957 US-PATENT-CLASS-73-57 US-PATENT-3,500,677	N71-17656*	c 14	NASA-CASE-MFS-12827 US-PATENT-APPL-SN-742816 US-PATENT-CLASS-73-88.5 US-PATENT-3,534,592	N71-17805*	c 15	NASA-CASE-MFS-12805 US-PATENT-APPL-SN-758082 US-PATENT-CLASS-192-43.1 US-PATENT-CLASS-81-63.1			
N71-17585*	c 14	NASA-CASE-XGS-05680 US-PATENT-APPL-SN-656953 US-PATENT-CLASS-318-138 US-PATENT-3,501,664	N71-17657*	c 14	NASA-CASE-XNP-09205 US-PATENT-APPL-SN-768473 US-PATENT-CLASS-33-149 US-PATENT-3,534,479	N71-17818*	c 26	NASA-CASE-XMF-01016 US-PATENT-APPL-SN-326299 US-PATENT-CLASS-264-27 US-PATENT-3,274,304			
N71-17586*	c 14	NASA-CASE-XLA-08646 US-PATENT-APPL-SN-677476 US-PATENT-CLASS-73-105 US-PATENT-3,534,596	N71-17658*	c 14	NASA-CASE-XMF-04966 US-PATENT-APPL-SN-727480 US-PATENT-CLASS-33-174 US-PATENT-3,534,480	N71-17822*	c 15	NASA-CASE-ARC-10009-1 US-PATENT-APPL-SN-714595 US-PATENT-CLASS-324-58.5 US-PATENT-3,532,973			
N71-17587*	c 14	NASA-CASE-XMF-05844 US-PATENT-APPL-SN-706564 US-PATENT-CLASS-73-382 US-PATENT-3,500,688	N71-17659*	c 14	NASA-CASE-XMF-02964 US-PATENT-APPL-SN-493942 US-PATENT-CLASS-73-15.4 US-PATENT-3,465,569	N71-17897*	c 33	NASA-CASE-XLA-00892 US-PATENT-APPL-SN-245941 US-PATENT-CLASS-62-467 US-PATENT-3,273,355			
N71-17588*	c 14	NASA-CASE-MFS-12806 US-PATENT-APPL-SN-686933 US-PATENT-CLASS-55-179 US-PATENT-3,490,205	N71-17661*	c 12	NASA-CASE-NPO-10298 US-PATENT-APPL-SN-745852 US-PATENT-CLASS-137-341 US-PATENT-3,534,765	N71-18064*	c 26	NASA-CASE-XNP-01328 US-PATENT-APPL-SN-296879 US-PATENT-CLASS-317-234 US-PATENT-3,271,637			
N71-17599*	c 05	NASA-CASE-MSC-12206-1 US-PATENT-APPL-SN-856258 US-PATENT-CLASS-128-142.5 US-PATENT-3,516,404	N71-17662*	c 14	NASA-CASE-NPO-10300 US-PATENT-APPL-SN-718769 US-PATENT-CLASS-350-285 US-PATENT-3,535,024	N71-18132*	c 15	NASA-CASE-MFS-13686 US-PATENT-APPL-SN-716183 US-PATENT-CLASS-73-67.2 US-PATENT-3,531,982			
N71-17600*	c 11	NASA-CASE-MFS-12915 US-PATENT-APPL-SN-694340 US-PATENT-CLASS-220-89 US-PATENT-3,469,734	N71-17679*	c 31	NASA-CASE-XNP-02507 US-PATENT-APPL-SN-475299 US-PATENT-CLASS-244-1 US-PATENT-3,310,256	N71-18465*	c 14	NASA-CASE-NPO-10174 US-PATENT-APPL-SN-690163 US-PATENT-CLASS-95-11 US-PATENT-3,520,238			
N71-17609*	c 32	NASA-CASE-XLA-02332 US-PATENT-APPL-SN-388024 US-PATENT-CLASS-212-11 US-PATENT-3,276,602	N71-17680*	c 31	NASA-CASE-XLA-00117 US-PATENT-APPL-SN-835153 US-PATENT-CLASS-220-1 US-PATENT-2,996,212	N71-18481*	c 14	NASA-CASE-XLA-02758 US-PATENT-APPL-SN-759665 US-PATENT-CLASS-73-4			
N71-17610*	c 33	NASA-CASE-XLA-00377									

N71-18482*	c 14	US-PATENT-3,531,978 NASA-CASE-XLA-07424 US-PATENT-APPL-SN-635326 US-PATENT-CLASS-313-7 US-PATENT-3,466,484	N71-18699*	c 14	US-PATENT-3,507,706 NASA-CASE-XLA-03273 US-PATENT-APPL-SN-487352 US-PATENT-CLASS-250-83.3 US-PATENT-3,458,702	N71-19433*	c 07	US-PATENT-3,517,318 NASA-CASE-MFS-13046 US-PATENT-APPL-SN-673228 US-PATENT-CLASS-178-6 US-PATENT-3,532,807
N71-18483*	c 14	NASA-CASE-XER-09519 US-PATENT-APPL-SN-676375 US-PATENT-CLASS-55-208 US-PATENT-3,469,375	N71-18701*	c 15	NASA-CASE-XMF-07587 US-PATENT-APPL-SN-649359 US-PATENT-CLASS-317-122 US-PATENT-3,448,346	N71-19435*	c 08	NASA-CASE-XGS-02612 US-PATENT-APPL-SN-502743 US-PATENT-CLASS-340-347 US-PATENT-3,509,558
N71-18578*	c 11	NASA-CASE-XAC-05902 US-PATENT-APPL-SN-662828 US-PATENT-CLASS-89-8 US-PATENT-3,465,638	N71-18720*	c 09	NASA-CASE-MSC-12101 US-PATENT-APPL-SN-763705 US-PATENT-CLASS-343-718 US-PATENT-3,509,570	N71-19436*	c 07	NASA-CASE-XMF-09422 US-PATENT-APPL-SN-783378 US-PATENT-CLASS-174-35 US-PATENT-3,517,109
N71-18579*	c 15	NASA-CASE-XGS-04175 US-PATENT-APPL-SN-606464 US-PATENT-CLASS-72-364 US-PATENT-3,465,567	N71-18721*	c 09	NASA-CASE-XER-07894 US-PATENT-APPL-SN-644444 US-PATENT-CLASS-331-107 US-PATENT-3,509,491	N71-19437*	c 08	NASA-CASE-XGS-04768 US-PATENT-APPL-SN-598119 US-PATENT-CLASS-235-158 US-PATENT-3,508,039
N71-18580*	c 15	NASA-CASE-XNP-09698 US-PATENT-APPL-SN-698592 US-PATENT-CLASS-138-4 US-PATENT-CLASS-138-45 US-PATENT-CLASS-251-118 US-PATENT-CLASS-251-121 US-PATENT-3,532,128	N71-18722*	c 10	NASA-CASE-ERC-10046 US-PATENT-APPL-SN-793772 US-PATENT-CLASS-343-100 US-PATENT-3,501,764	N71-19438*	c 03	NASA-CASE-XGS-05432 US-PATENT-APPL-SN-549860 US-PATENT-CLASS-320-23 US-PATENT-3,426,263
N71-18594*	c 08	NASA-CASE-XAC-04031 US-PATENT-APPL-SN-539005 US-PATENT-CLASS-340-347 US-PATENT-3,533,098	N71-18723*	c 10	NASA-CASE-XNP-09450 US-PATENT-APPL-SN-640459 US-PATENT-CLASS-307-273 US-PATENT-3,501,649	N71-19439*	c 05	NASA-CASE-XMS-09571 US-PATENT-APPL-SN-678700 US-PATENT-CLASS-165-46 US-PATENT-3,425,487
N71-18595*	c 08	NASA-CASE-XGS-03303 US-PATENT-APPL-SN-520838 US-PATENT-CLASS-340-174 US-PATENT-3,501,752	N71-18724*	c 10	NASA-CASE-XLA-00371 US-PATENT-APPL-SN-568160 US-PATENT-CLASS-318-257 US-PATENT-3,504,258	N71-19440*	c 05	NASA-CASE-XMS-01177 US-PATENT-APPL-SN-516150 US-PATENT-CLASS-250-83 US-PATENT-3,427,454
N71-18598*	c 09	NASA-CASE-NPO-10066 US-PATENT-APPL-SN-681693 US-PATENT-CLASS-343-13 US-PATENT-3,447,155	N71-18751*	c 08	NASA-CASE-XLA-07732 US-PATENT-APPL-SN-641441 US-PATENT-CLASS-307-216 US-PATENT-3,512,009	N71-19449*	c 09	NASA-CASE-XFR-03107 US-PATENT-APPL-SN-507257 US-PATENT-CLASS-178-6 US-PATENT-3,458,651
N71-18599*	c 09	NASA-CASE-LAR-10372 US-PATENT-APPL-SN-730162 US-PATENT-CLASS-102-70.2 US-PATENT-3,500,747	N71-18752*	c 08	NASA-CASE-XMF-00663 US-PATENT-APPL-SN-205470 US-PATENT-CLASS-321-5 US-PATENT-3,521,143	N71-19466*	c 09	NASA-CASE-XGS-02812 US-PATENT-APPL-SN-502750 US-PATENT-CLASS-330-30 US-PATENT-3,466,560
N71-18600*	c 09	NASA-CASE-MSC-12168-1 US-PATENT-APPL-SN-640154 US-PATENT-CLASS-312-296 US-PATENT-3,447,850	N71-18772*	c 10	NASA-CASE-GSC-10366-1 US-PATENT-APPL-SN-771523 US-PATENT-CLASS-318-138 US-PATENT-3,532,948	N71-19467*	c 10	NASA-CASE-XMF-08665 US-PATENT-APPL-SN-582609 US-PATENT-CLASS-325-63 US-PATENT-3,470,475
N71-18602*	c 08	NASA-CASE-XGS-04766 US-PATENT-APPL-SN-598120 US-PATENT-CLASS-235-175 US-PATENT-3,532,866	N71-18773*	c 11	NASA-CASE-XMF-07488 US-PATENT-APPL-SN-707495 US-PATENT-CLASS-35-12 US-PATENT-3,534,485	N71-19468*	c 10	NASA-CASE-XMS-05605-1 US-PATENT-APPL-SN-764812 US-PATENT-CLASS-178-69.5 US-PATENT-3,532,819
N71-18603*	c 12	NASA-CASE-ERC-10031 US-PATENT-APPL-SN-741461 US-PATENT-CLASS-40-28 US-PATENT-3,516,185	N71-18830*	c 09	NASA-CASE-XAC-10768 US-PATENT-APPL-SN-711970 US-PATENT-CLASS-250-83 US-PATENT-3,508,053	N71-19469*	c 10	NASA-CASE-XNP-00777 US-PATENT-APPL-SN-486573 US-PATENT-CLASS-329-122 US-PATENT-3,517,268
N71-18611*	c 31	NASA-CASE-MFS-20400 US-PATENT-APPL-SN-551694 US-PATENT-CLASS-152-11 US-PATENT-3,493,027	N71-18843*	c 09	NASA-CASE-XNP-03263 US-PATENT-APPL-SN-506908 US-PATENT-CLASS-340-146.1 US-PATENT-3,501,743	N71-19470*	c 09	NASA-CASE-XGS-05289 US-PATENT-APPL-SN-632104 US-PATENT-CLASS-331-113 US-PATENT-3,470,496
N71-18613*	c 15	NASA-CASE-XNP-02588 US-PATENT-APPL-SN-563644 US-PATENT-CLASS-219-91 US-PATENT-3,466,418	N71-19212*	c 21	NASA-CASE-MFS-20386 US-PATENT-APPL-SN-818349 US-PATENT-CLASS-356-28 US-PATENT-3,532,427	N71-19471*	c 10	NASA-CASE-XLE-03804 US-PATENT-APPL-SN-526631 US-PATENT-CLASS-307-235 US-PATENT-3,463,939
N71-18614*	c 16	NASA-CASE-XGS-03644 US-PATENT-APPL-SN-505320 US-PATENT-CLASS-331-94.5 US-PATENT-3,517,328	N71-19213*	c 15	NASA-CASE-MFS-14259 US-PATENT-APPL-SN-787410 US-PATENT-CLASS-138-43 US-PATENT-3,536,103	N71-19472*	c 10	NASA-CASE-XAC-04030 US-PATENT-APPL-SN-520839 US-PATENT-CLASS-328-1 US-PATENT-3,464,016
N71-18615*	c 12	NASA-CASE-XNP-09704 US-PATENT-APPL-SN-730701 US-PATENT-CLASS-137-594 US-PATENT-CLASS-138-46 US-PATENT-CLASS-251-127 US-PATENT-CLASS-251-333 US-PATENT-CLASS-251-342 US-PATENT-CLASS-251-61.1 US-PATENT-3,532,118	N71-19214*	c 15	NASA-CASE-MFS-20410 US-PATENT-APPL-SN-819599 US-PATENT-CLASS-244-1 US-PATENT-3,534,926	N71-19479*	c 09	NASA-CASE-XMS-04300 US-PATENT-APPL-SN-516158 US-PATENT-CLASS-350-275 US-PATENT-3,427,093
N71-18616*	c 15	NASA-CASE-XLA-07390 US-PATENT-APPL-SN-665681 US-PATENT-CLASS-72-53 US-PATENT-3,531,964	N71-19287*	c 02	NASA-CASE-GSC-10087-1 US-PATENT-APPL-SN-701679 US-PATENT-CLASS-343-112 US-PATENT-3,534,367	N71-19480*	c 09	NASA-CASE-XFR-05637 US-PATENT-APPL-SN-484855 US-PATENT-CLASS-235-194 US-PATENT-3,423,579
N71-18625*	c 14	NASA-CASE-NPO-10175 US-PATENT-APPL-SN-685787 US-PATENT-CLASS-137-505.12 US-PATENT-3,443,583	N71-19288*	c 08	NASA-CASE-NPO-10068 US-PATENT-APPL-SN-668969 US-PATENT-CLASS-340-172.5 US-PATENT-3,501,750	N71-19485*	c 15	NASA-CASE-MSC-11010 US-PATENT-APPL-SN-605090 US-PATENT-CLASS-251-31 US-PATENT-3,447,774
N71-18692*	c 08	NASA-CASE-MFS-14322 US-PATENT-APPL-SN-646934 US-PATENT-CLASS-328-134 US-PATENT-3,501,701	N71-19417*	c 10	NASA-CASE-XMS-10984-1 US-PATENT-APPL-SN-605095 US-PATENT-CLASS-340-213.1 US-PATENT-3,533,093	N71-19486*	c 15	NASA-CASE-XMF-08522 US-PATENT-APPL-SN-640447 US-PATENT-CLASS-219-121 US-PATENT-3,474,220
N71-18693*	c 08	NASA-CASE-XGS-04765 US-PATENT-APPL-SN-577545 US-PATENT-CLASS-235-156 US-PATENT-3,508,036	N71-19418*	c 10	NASA-CASE-GSC-10041-1 US-PATENT-APPL-SN-684209 US-PATENT-CLASS-331-113 US-PATENT-3,458,833	N71-19489*	c 15	NASA-CASE-XMF-04680 US-PATENT-APPL-SN-634040 US-PATENT-CLASS-33-147 US-PATENT-3,425,131
N71-18694*	c 08	NASA-CASE-NPO-10201 US-PATENT-APPL-SN-691738 US-PATENT-CLASS-340-174 US-PATENT-3,509,551	N71-19420*	c 08	NASA-CASE-XNP-09453 US-PATENT-APPL-SN-640448 US-PATENT-CLASS-226-190 US-PATENT-3,507,436	N71-19493*	c 07	NASA-CASE-XKS-08485 US-PATENT-APPL-SN-649078 US-PATENT-CLASS-343-873 US-PATENT-3,509,578
N71-18696*	c 03	NASA-CASE-NPO-10373 US-PATENT-APPL-SN-718752 US-PATENT-CLASS-136-89	N71-19421*	c 10	NASA-CASE-XLA-08493 US-PATENT-APPL-SN-749148 US-PATENT-CLASS-324-72 US-PATENT-3,532,975	N71-19494*	c 11	NASA-CASE-MFS-10555 US-PATENT-APPL-SN-700984 US-PATENT-CLASS-35-12 US-PATENT-3,516,179
			N71-19431*	c 14	NASA-CASE-XGS-02439 US-PATENT-APPL-SN-487341 US-PATENT-CLASS-324-120 US-PATENT-3,422,352	N71-19516*	c 09	NASA-CASE-XNP-06937 US-PATENT-APPL-SN-640449 US-PATENT-CLASS-330-30 US-PATENT-3,501,712
			N71-19432*	c 08	NASA-CASE-XGS-02440 US-PATENT-APPL-SN-655677 US-PATENT-CLASS-328-42	N71-19544*	c 08	NASA-CASE-XGS-01230 US-PATENT-APPL-SN-356488 US-PATENT-CLASS-340-347



N71-19545*	c 03	US-PATENT-3,474,441 NASA-CASE-NPO-10821 US-PATENT-APPL-SN-670814 US-PATENT-CLASS-136-89 US-PATENT-3,466,198	N71-20439*	c 14	US-PATENT-3,461,721 NASA-CASE-XAC-04886-1 US-PATENT-APPL-SN-574290 US-PATENT-CLASS-73-142 US-PATENT-3,425,272	N71-20742*	c 18	US-PATENT-3,360,980 NASA-CASE-XMS-02952 US-PATENT-APPL-SN-519160 US-PATENT-CLASS-55-158 US-PATENT-3,355,861
N71-19547*	c 10	NASA-CASE-XGS-03058 US-PATENT-APPL-SN-568987 US-PATENT-CLASS-307-289 US-PATENT-3,517,221	N71-20440*	c 15	NASA-CASE-XNP-09770 US-PATENT-APPL-SN-700120 US-PATENT-CLASS-209-10 US-PATENT-3,472,372	N71-20743*	c 17	NASA-CASE-XMF-02786 US-PATENT-APPL-SN-466873 US-PATENT-CLASS-75-142 US-PATENT-3,347,665
N71-19568*	c 14	NASA-CASE-MS-10966 US-PATENT-APPL-SN-665676 US-PATENT-CLASS-250-203 US-PATENT-3,421,004	N71-20441*	c 15	NASA-CASE-XMS-06329-1 US-PATENT-APPL-SN-688742 US-PATENT-CLASS-73-141 US-PATENT-3,472,069	N71-20747*	c 25	NASA-CASE-XLE-02578 US-PATENT-APPL-SN-469012 US-PATENT-CLASS-313-271 US-PATENT-3,356,885
N71-19569*	c 15	NASA-CASE-XLA-05749 US-PATENT-APPL-SN-621714 US-PATENT-CLASS-137-582 US-PATENT-3,426,791	N71-20442*	c 14	NASA-CASE-MFS-11537 US-PATENT-APPL-SN-636878 US-PATENT-CLASS-23-254 US-PATENT-3,472,629	N71-20782*	c 10	NASA-CASE-XGS-01784 US-PATENT-APPL-SN-396444 US-PATENT-CLASS-250-206 US-PATENT-3,348,053
N71-19570*	c 15	NASA-CASE-XLE-05130-2 US-PATENT-APPL-SN-700586 US-PATENT-CLASS-277-25 US-PATENT-3,466,052	N71-20443*	c 15	NASA-CASE-MFS-07369 US-PATENT-APPL-SN-640462 US-PATENT-CLASS-29-492 US-PATENT-3,473,216	N71-20791*	c 07	NASA-CASE-XNP-05254 US-PATENT-APPL-SN-472372 US-PATENT-CLASS-325-31 US-PATENT-3,350,643
N71-19610*	c 09	NASA-CASE-NPO-10037 US-PATENT-APPL-SN-700987 US-PATENT-CLASS-200-152 US-PATENT-3,470,342	N71-20445*	c 09	NASA-CASE-XNP-09775 US-PATENT-APPL-SN-668247 US-PATENT-CLASS-333-96 US-PATENT-3,474,357	N71-20813*	c 15	NASA-CASE-XMS-02184 US-PATENT-APPL-SN-608247 US-PATENT-CLASS-248-27 US-PATENT-3,361,400
N71-19687*	c 08	NASA-CASE-XNP-04780 US-PATENT-APPL-SN-455477 US-PATENT-CLASS-340-347 US-PATENT-3,430,227	N71-20446*	c 09	NASA-CASE-XLE-04250 US-PATENT-APPL-SN-621098 US-PATENT-CLASS-310-54 US-PATENT-3,447,003	N71-20814*	c 07	NASA-CASE-XNP-01306 US-PATENT-APPL-SN-343426 US-PATENT-CLASS-179-15 US-PATENT-3,364,311
N71-19763*	c 08	NASA-CASE-XAC-06302 US-PATENT-APPL-SN-574284 US-PATENT-CLASS-325-60 US-PATENT-3,456,193	N71-20447*	c 09	NASA-CASE-XLA-02850 US-PATENT-APPL-SN-556784 US-PATENT-CLASS-307-267 US-PATENT-3,473,050	N71-20815*	c 12	NASA-CASE-XMF-01779 US-PATENT-APPL-SN-521999 US-PATENT-CLASS-346-1 US-PATENT-3,357,024
N71-19773*	c 07	NASA-CASE-GSC-10373-1 US-PATENT-APPL-SN-712658 US-PATENT-CLASS-325-4 US-PATENT-3,532,985	N71-20448*	c 10	NASA-CASE-XNP-03744 US-PATENT-APPL-SN-547677 US-PATENT-CLASS-318-314 US-PATENT-3,424,966	N71-20816*	c 09	NASA-CASE-XAC-01677 US-PATENT-APPL-SN-596338 US-PATENT-CLASS-73-147 US-PATENT-3,360,988
N71-19854*	c 07	NASA-CASE-GSC-10553-1 US-PATENT-APPL-SN-820963 US-PATENT-CLASS-343-100 US-PATENT-3,534,365	N71-20461*	c 14	NASA-CASE-XNP-09763 US-PATENT-APPL-SN-600682 US-PATENT-CLASS-117-6 US-PATENT-3,433,662	N71-20834*	c 33	NASA-CASE-XMS-02009 US-PATENT-APPL-SN-455352 US-PATENT-CLASS-141-5 US-PATENT-3,349,814
N71-20268*	c 05	NASA-CASE-XLA-02898 US-PATENT-APPL-SN-429932 US-PATENT-CLASS-128-1 US-PATENT-3,461,855	N71-20491*	c 03	NASA-CASE-XGS-05434 US-PATENT-APPL-SN-667636 US-PATENT-CLASS-136-182 US-PATENT-3,463,673	N71-20841*	c 10	NASA-CASE-XGS-01222 US-PATENT-APPL-SN-354182 US-PATENT-CLASS-325-305 US-PATENT-3,348,152
N71-20273*	c 03	NASA-CASE-NPO-10188 US-PATENT-APPL-SN-681687 US-PATENT-CLASS-244-1 US-PATENT-3,473,758	N71-20492*	c 03	NASA-CASE-XLE-04787 US-PATENT-APPL-SN-551846 US-PATENT-CLASS-136-89 US-PATENT-3,434,885	N71-20842*	c 09	NASA-CASE-XNP-05381 US-PATENT-APPL-SN-568352 US-PATENT-CLASS-338-82 US-PATENT-3,350,671
N71-20330*	c 28	NASA-CASE-XLE-103477-1 US-PATENT-APPL-SN-466390 US-PATENT-CLASS-60-39,36 US-PATENT-3,433,015	N71-20518*	c 24	NASA-CASE-XNP-02592 US-PATENT-APPL-SN-484490 US-PATENT-CLASS-324-33 US-PATENT-3,430,131	N71-20851*	c 09	NASA-CASE-XNP-04732 US-PATENT-APPL-SN-557584 US-PATENT-CLASS-339-177 US-PATENT-3,358,264
N71-20393*	c 15	NASA-CASE-MFS-06074 US-PATENT-APPL-SN-688743 US-PATENT-CLASS-228-9 US-PATENT-3,458,104	N71-20563*	c 25	NASA-CASE-XLA-06232 US-PATENT-APPL-SN-612740 US-PATENT-CLASS-324-58,5 US-PATENT-3,473,116	N71-20852*	c 10	NASA-CASE-XGS-03502 US-PATENT-APPL-SN-584066 US-PATENT-CLASS-331-17 US-PATENT-3,361,985
N71-20395*	c 15	NASA-CASE-XMF-06065 US-PATENT-APPL-SN-665679 US-PATENT-CLASS-219-275 US-PATENT-3,466,424	N71-20569*	c 09	NASA-CASE-XMS-05859-1 US-PATENT-APPL-SN-544899 US-PATENT-CLASS-324-57 US-PATENT-3,434,050	N71-20864*	c 09	NASA-CASE-XGS-03501 US-PATENT-APPL-SN-576521 US-PATENT-CLASS-343-16 US-PATENT-3,359,555
N71-20396*	c 31	NASA-CASE-XMF-08523 US-PATENT-APPL-SN-645563 US-PATENT-CLASS-244-1 US-PATENT-3,465,986	N71-20570*	c 02	NASA-CASE-XAC-08972 US-PATENT-APPL-SN-700174 US-PATENT-CLASS-244-76 US-PATENT-3,472,470	N71-20895*	c 03	NASA-CASE-XNP-00826 US-PATENT-APPL-SN-327163 US-PATENT-CLASS-136-89 US-PATENT-3,346,419
N71-20400*	c 16	NASA-CASE-MFS-11279 US-PATENT-APPL-SN-628094 US-PATENT-CLASS-219-121 US-PATENT-3,472,998	N71-20571*	c 08	NASA-CASE-XGS-04987 US-PATENT-APPL-SN-619908 US-PATENT-CLASS-315-24 US-PATENT-3,437,874	N71-20896*	c 12	NASA-CASE-XNP-02251 US-PATENT-APPL-SN-432030 US-PATENT-CLASS-321-48 US-PATENT-3,337,790
N71-20407*	c 03	NASA-CASE-NPO-10194 US-PATENT-APPL-SN-668249 US-PATENT-CLASS-136-182 US-PATENT-3,460,995	N71-20658*	c 09	NASA-CASE-XMS-03454 US-PATENT-APPL-SN-425363 US-PATENT-CLASS-343-915 US-PATENT-3,360,798	N71-20904*	c 03	NASA-CASE-XLE-01645 US-PATENT-APPL-SN-342574 US-PATENT-CLASS-136-86 US-PATENT-3,357,862
N71-20427*	c 14	NASA-CASE-XMS-13052 US-PATENT-APPL-SN-561223 US-PATENT-CLASS-62-268 US-PATENT-3,455,121	N71-20705*	c 09	NASA-CASE-XMF-01599 US-PATENT-APPL-SN-381940 US-PATENT-CLASS-117-212 US-PATENT-3,359,132	N71-20905*	c 06	NASA-CASE-XMF-02584 US-PATENT-APPL-SN-506135 US-PATENT-CLASS-260-2 US-PATENT-3,346,515
N71-20428*	c 14	NASA-CASE-XGS-04879 US-PATENT-APPL-SN-541399 US-PATENT-CLASS-324-5 US-PATENT-3,443,208	N71-20717*	c 06	NASA-CASE-XMF-04133 US-PATENT-APPL-SN-554949 US-PATENT-CLASS-260-2 US-PATENT-3,354,098	N71-20942*	c 28	NASA-CASE-XNP-04389 US-PATENT-APPL-SN-523511 US-PATENT-CLASS-60-265 US-PATENT-3,353,359
N71-20429*	c 14	NASA-CASE-XLE-05260 US-PATENT-APPL-SN-674355 US-PATENT-CLASS-73-117,4 US-PATENT-3,463,001	N71-20718*	c 05	NASA-CASE-XMS-04625 US-PATENT-APPL-SN-519161 US-PATENT-CLASS-244-122 US-PATENT-3,356,320	N71-21006*	c 14	NASA-CASE-XLA-01832 US-PATENT-APPL-SN-517858 US-PATENT-CLASS-346-50 US-PATENT-3,354,462
N71-20430*	c 14	NASA-CASE-XLA-03645 US-PATENT-APPL-SN-600266 US-PATENT-CLASS-250-83 US-PATENT-3,450,878	N71-20739*	c 15	NASA-CASE-XGS-02011 US-PATENT-APPL-SN-502693 US-PATENT-CLASS-308-9 US-PATENT-3,359,046	N71-21007*	c 14	NASA-CASE-XMS-06236 US-PATENT-APPL-SN-482670 US-PATENT-CLASS-73-290 US-PATENT-3,355,948
N71-20435*	c 14	NASA-CASE-XMS-06767-1 US-PATENT-APPL-SN-716795 US-PATENT-CLASS-73-422 US-PATENT-3,438,263	N71-20740*	c 15	NASA-CASE-XLA-01808 US-PATENT-APPL-SN-517159 US-PATENT-CLASS-74-471 US-PATENT-3,364,777	N71-21042*	c 08	NASA-CASE-XGS-01021 US-PATENT-APPL-SN-279646 US-PATENT-CLASS-340-174,1 US-PATENT-3,327,298
N71-20436*	c 12	NASA-CASE-LAR-11138 US-PATENT-APPL-SN-694317 US-PATENT-CLASS-73-147	N71-20741*	c 14	NASA-CASE-XMS-01618 US-PATENT-APPL-SN-418362 US-PATENT-CLASS-73-29	N71-21045*	c 32	NASA-CASE-XLA-01731 US-PATENT-APPL-SN-425365 US-PATENT-CLASS-52-2

N71-21060*	c 15	US-PATENT-3,364,631 NASA-CASE-XLA-03660 US-PATENT-APPL-SN-482307 US-PATENT-CLASS-95-53 US-PATENT-3,361,045	N71-21483*	c 10	US-PATENT-3,345,866 NASA-CASE-XGS-01155 US-PATENT-APPL-SN-557871 US-PATENT-CLASS-343-16 US-PATENT-3,344,425	N71-22706*	c 15	US-PATENT-3,341,977 NASA-CASE-XMS-09310 US-PATENT-APPL-SN-655724 US-PATENT-CLASS-137-496 US-PATENT-3,384,111
N71-21064*	c 31	NASA-CASE-XGS-02554 US-PATENT-APPL-SN-504266 US-PATENT-CLASS-244-1 US-PATENT-3,350,034	N71-21489*	c 15	NASA-CASE-XNP-06914 US-PATENT-APPL-SN-590147 US-PATENT-CLASS-85-33 US-PATENT-3,352,192	N71-22707*	c 08	NASA-CASE-XNP-04067 US-PATENT-APPL-SN-466875 US-PATENT-CLASS-340-172.5 US-PATENT-3,369,222
N71-21068*	c 18	NASA-CASE-XNP-02888 US-PATENT-APPL-SN-409126 US-PATENT-CLASS-239-265.11 US-PATENT-3,347,465	N71-21493*	c 28	NASA-CASE-XLA-10450 US-PATENT-APPL-SN-594587 US-PATENT-CLASS-239-265.19 US-PATENT-3,347,466	N71-22710*	c 08	NASA-CASE-XNP-02778 US-PATENT-APPL-SN-508170 US-PATENT-CLASS-340-172.5 US-PATENT-3,369,223
N71-21072*	c 14	NASA-CASE-XAC-02981 US-PATENT-APPL-SN-464879 US-PATENT-CLASS-73-398 US-PATENT-3,352,157	N71-21507*	c 33	NASA-CASE-XLE-04603 US-PATENT-APPL-SN-638194 US-PATENT-CLASS-60-243 US-PATENT-3,347,046	N71-22713*	c 15	NASA-CASE-XLA-03492 US-PATENT-APPL-SN-395348 US-PATENT-CLASS-156-60 US-PATENT-3,342,653
N71-21076*	c 15	NASA-CASE-XMS-03745 US-PATENT-APPL-SN-534295 US-PATENT-CLASS-24-263 US-PATENT-3,346,929	N71-21528*	c 15	NASA-CASE-XLA-01446 US-PATENT-APPL-SN-400613 US-PATENT-CLASS-53-102 US-PATENT-3,336,725	N71-22721*	c 15	NASA-CASE-XMF-03212 US-PATENT-APPL-SN-577549 US-PATENT-CLASS-55-418 US-PATENT-3,385,036
N71-21078*	c 15	NASA-CASE-XNP-03459 US-PATENT-APPL-SN-457879 US-PATENT-CLASS-29-495 US-PATENT-3,357,093	N71-21529*	c 15	NASA-CASE-XGS-02422 US-PATENT-APPL-SN-493943 US-PATENT-CLASS-74-126 US-PATENT-3,331,255	N71-22722*	c 15	NASA-CASE-XMS-04292 US-PATENT-APPL-SN-517157 US-PATENT-CLASS-82-14 US-PATENT-3,373,640
N71-21079*	c 14	NASA-CASE-XLA-03102 US-PATENT-APPL-SN-576195 US-PATENT-CLASS-33-31 US-PATENT-3,364,578	N71-21530*	c 15	NASA-CASE-XMS-03722 US-PATENT-APPL-SN-487934 US-PATENT-CLASS-267-64 US-PATENT-3,330,549	N71-22723*	c 15	NASA-CASE-XMF-01083 US-PATENT-APPL-SN-432028 US-PATENT-CLASS-72-83 US-PATENT-3,340,713
N71-21082*	c 14	NASA-CASE-XGS-02629 US-PATENT-APPL-SN-500435 US-PATENT-CLASS-244-1 US-PATENT-3,350,033	N71-21531*	c 15	NASA-CASE-XNP-02341 US-PATENT-APPL-SN-432025 US-PATENT-CLASS-52-127 US-PATENT-3,330,082	N71-22748*	c 05	NASA-CASE-XMS-04170 US-PATENT-APPL-SN-482311 US-PATENT-CLASS-9-312 US-PATENT-3,343,189
N71-21088*	c 14	NASA-CASE-XNP-06957 US-PATENT-APPL-SN-406097 US-PATENT-CLASS-250-83.3 US-PATENT-3,348,048	N71-21536*	c 15	NASA-CASE-XMS-06876 US-PATENT-APPL-SN-605100 US-PATENT-CLASS-72-34 US-PATENT-3,345,840	N71-22749*	c 08	NASA-CASE-XNP-02748 US-PATENT-APPL-SN-420245 US-PATENT-CLASS-340-146.1 US-PATENT-3,373,404
N71-21089*	c 12	NASA-CASE-XMS-01905 US-PATENT-APPL-SN-280580 US-PATENT-CLASS-141-91 US-PATENT-3,331,404	N71-21583*	c 09	NASA-CASE-XLE-02008 US-PATENT-APPL-SN-487342 US-PATENT-CLASS-338-64 US-PATENT-3,329,918	N71-22750*	c 07	NASA-CASE-XNP-01735 US-PATENT-APPL-SN-408438 US-PATENT-CLASS-343-786 US-PATENT-3,373,431
N71-21090*	c 14	NASA-CASE-XLE-00787 US-PATENT-APPL-SN-330210 US-PATENT-CLASS-324-33 US-PATENT-3,346,806	N71-21586*	c 33	NASA-CASE-XLA-01794 US-PATENT-APPL-SN-464880 US-PATENT-CLASS-73-86 US-PATENT-3,357,237	N71-22752*	c 14	NASA-CASE-XMF-01974 US-PATENT-APPL-SN-568354 US-PATENT-CLASS-73-419 US-PATENT-3,383,922
N71-21091*	c 14	NASA-CASE-XNP-02983 US-PATENT-APPL-SN-407599 US-PATENT-CLASS-73-88.5 US-PATENT-3,350,926	N71-21651*	c 18	NASA-CASE-XMF-01402 US-PATENT-APPL-SN-328140 US-PATENT-CLASS-161-68 US-PATENT-3,346,442	N71-22765*	c 14	NASA-CASE-XLA-00934 US-PATENT-APPL-SN-326298 US-PATENT-CLASS-73-84 US-PATENT-3,339,404
N71-21177*	c 15	NASA-CASE-XAC-06956 US-PATENT-APPL-SN-538166 US-PATENT-CLASS-259-71 US-PATENT-3,347,531	N71-21688*	c 21	NASA-CASE-XMF-00684 US-PATENT-APPL-SN-260087 US-PATENT-CLASS-235-150.25 US-PATENT-3,331,951	N71-22792*	c 33	NASA-CASE-XLA-01243 US-PATENT-APPL-SN-538911 US-PATENT-CLASS-244-1 US-PATENT-3,384,324
N71-21179*	c 15	NASA-CASE-XLA-01401 US-PATENT-APPL-SN-382976 US-PATENT-CLASS-235-61.6 US-PATENT-3,346,724	N71-21693*	c 25	NASA-CASE-XLA-03103 US-PATENT-APPL-SN-531642 US-PATENT-CLASS-315-111 US-PATENT-3,333,152	N71-22796*	c 09	NASA-CASE-XKS-03381 US-PATENT-APPL-SN-437611 US-PATENT-CLASS-317-9 US-PATENT-3,340,430
N71-21234*	c 15	NASA-CASE-XKS-02582 US-PATENT-APPL-SN-424153 US-PATENT-CLASS-251-172 US-PATENT-3,327,991	N71-21694*	c 25	NASA-CASE-XLE-02902 US-PATENT-APPL-SN-485957 US-PATENT-CLASS-60-202 US-PATENT-3,336,748	N71-22797*	c 15	NASA-CASE-XLE-01092 US-PATENT-APPL-SN-422098 US-PATENT-CLASS-72-253 US-PATENT-3,342,055
N71-21311*	c 15	NASA-CASE-XNP-03637 US-PATENT-APPL-SN-453232 US-PATENT-CLASS-310-9.1 US-PATENT-3,359,435	N71-21708*	c 21	NASA-CASE-XLA-02551 US-PATENT-APPL-SN-416940 US-PATENT-CLASS-244-1 US-PATENT-3,329,375	N71-22798*	c 15	NASA-CASE-XMS-04178 US-PATENT-APPL-SN-511299 US-PATENT-CLASS-83-467 US-PATENT-3,367,224
N71-21403*	c 15	NASA-CASE-XMF-03988 US-PATENT-APPL-SN-578923 US-PATENT-CLASS-252-26 US-PATENT-3,361,666	N71-21744*	c 15	NASA-CASE-XGS-04227 US-PATENT-APPL-SN-545805 US-PATENT-CLASS-74-409 US-PATENT-3,359,819	N71-22799*	c 15	NASA-CASE-XMF-03511 US-PATENT-APPL-SN-540414 US-PATENT-CLASS-90-12 US-PATENT-3,386,337
N71-21404*	c 15	NASA-CASE-XLA-01262 US-PATENT-APPL-SN-386800 US-PATENT-CLASS-156-3 US-PATENT-3,356,549	N71-21819*	c 27	NASA-CASE-XLE-03494 US-PATENT-APPL-SN-529593 US-PATENT-CLASS-60-251 US-PATENT-3,345,822	N71-22874*	c 15	NASA-CASE-XLA-00188 US-PATENT-APPL-SN-254847 US-PATENT-CLASS-102-49.5 US-PATENT-3,368,486
N71-21449*	c 09	NASA-CASE-XMS-01991 US-PATENT-APPL-SN-410326 US-PATENT-CLASS-323-22 US-PATENT-3,344,340	N71-21821*	c 23	NASA-CASE-XNP-01059 US-PATENT-APPL-SN-393464 US-PATENT-CLASS-250-232 US-PATENT-3,354,320	N71-22875*	c 11	NASA-CASE-XAC-05333 US-PATENT-APPL-SN-546148 US-PATENT-CLASS-119-15 US-PATENT-3,367,308
N71-21473*	c 10	NASA-CASE-XGS-08679 US-PATENT-APPL-SN-312443 US-PATENT-CLASS-343-113 US-PATENT-3,340,532	N71-21822*	c 28	NASA-CASE-XNP-04124 US-PATENT-APPL-SN-498168 US-PATENT-CLASS-60-202 US-PATENT-3,345,820	N71-22877*	c 15	NASA-CASE-XMF-10040 US-PATENT-APPL-SN-592680 US-PATENT-CLASS-188-1 US-PATENT-3,381,778
N71-21474*	c 11	NASA-CASE-XMS-04798 US-PATENT-APPL-SN-480210 US-PATENT-CLASS-35-12 US-PATENT-3,330,052	N71-21824*	c 26	NASA-CASE-XNP-05429 US-PATENT-APPL-SN-578928 US-PATENT-CLASS-103-1 US-PATENT-3,361,067	N71-22878*	c 15	NASA-CASE-XMS-04545 US-PATENT-APPL-SN-508601 US-PATENT-CLASS-73-144 US-PATENT-3,381,527
N71-21475*	c 11	NASA-CASE-XLA-05378 US-PATENT-APPL-SN-484156 US-PATENT-CLASS-73-343 US-PATENT-3,331,246	N71-21881*	c 31	NASA-CASE-XNP-02595 US-PATENT-APPL-SN-502709 US-PATENT-CLASS-244-1 US-PATENT-3,333,788	N71-22880*	c 21	NASA-CASE-XLA-00793 US-PATENT-APPL-SN-369334 US-PATENT-CLASS-88-1 US-PATENT-3,381,569
N71-21476*	c 07	NASA-CASE-XNP-00746 US-PATENT-APPL-SN-271824 US-PATENT-CLASS-235-181 US-PATENT-3,359,409	N71-21882*	c 23	NASA-CASE-XNP-03853 US-PATENT-APPL-SN-578931 US-PATENT-CLASS-88-24 US-PATENT-3,359,855	N71-22881*	c 23	NASA-CASE-XLE-04222 US-PATENT-APPL-SN-512559 US-PATENT-CLASS-220-9 US-PATENT-3,379,330
N71-21481*	c 11	NASA-CASE-XLA-01326 US-PATENT-APPL-SN-422097 US-PATENT-CLASS-73-147	N71-22705*	c 15	NASA-CASE-XGS-02884 US-PATENT-APPL-SN-432433 US-PATENT-CLASS-51-57	N71-22888*	c 09	NASA-CASE-XLA-03114 US-PATENT-APPL-SN-440039 US-PATENT-CLASS-343-708

N71-22890*	c 33	US-PATENT-3,373,430 NASA-CASE-XLA-07728 US-PATENT-APPL-SN-538908 US-PATENT-CLASS-165-96
N71-22894*	c 18	US-PATENT-3,374,830 NASA-CASE-XLE-03925 US-PATENT-APPL-SN-514407 US-PATENT-CLASS-75-204
N71-22895*	c 16	US-PATENT-3,337,337 NASA-CASE-XMS-04269 US-PATENT-APPL-SN-516793 US-PATENT-CLASS-250-199
N71-22896*	c 05	US-PATENT-3,341,708 NASA-CASE-XMS-02399 US-PATENT-APPL-SN-492344 US-PATENT-CLASS-128-206
N71-22897*	c 08	US-PATENT-3,384,075 NASA-CASE-XNP-01753 US-PATENT-APPL-SN-423412 US-PATENT-CLASS-235-92
N71-22961*	c 10	US-PATENT-3,374,339 NASA-CASE-XMS-02159 US-PATENT-APPL-SN-534564 US-PATENT-CLASS-323-56
N71-22962*	c 10	US-PATENT-3,365,657 NASA-CASE-XGS-05441 US-PATENT-APPL-SN-505321 US-PATENT-CLASS-328-233
N71-22964*	c 14	US-PATENT-3,366,886 NASA-CASE-XLE-02024 US-PATENT-APPL-SN-422099 US-PATENT-CLASS-73-15
N71-22965*	c 14	US-PATENT-3,365,930 NASA-CASE-XGS-02319 US-PATENT-APPL-SN-496205 US-PATENT-CLASS-73-117
N71-22968*	c 31	US-PATENT-3,365,941 NASA-CASE-XLA-02050 US-PATENT-APPL-SN-568067 US-PATENT-CLASS-244-1
N71-22969*	c 31	US-PATENT-3,386,685 NASA-CASE-XLA-03132 US-PATENT-APPL-SN-610728 US-PATENT-CLASS-244-1
N71-22974*	c 03	US-PATENT-3,386,686 NASA-CASE-XGS-02630 US-PATENT-APPL-SN-494287 US-PATENT-CLASS-136-132
N71-22975*	c 06	US-PATENT-3,382,107 NASA-CASE-XNP-07659 US-PATENT-APPL-SN-567806 US-PATENT-CLASS-18-26
N71-22982*	c 15	US-PATENT-3,381,339 NASA-CASE-XLA-02809 US-PATENT-APPL-SN-554897 US-PATENT-CLASS-308-176
N71-22983*	c 28	US-PATENT-3,397,932 NASA-CASE-XMF-06926 US-PATENT-APPL-SN-537615 US-PATENT-CLASS-60-258
N71-22984*	c 07	US-PATENT-3,336,754 NASA-CASE-XMS-04312 US-PATENT-APPL-SN-521754 US-PATENT-CLASS-343-708
N71-22985*	c 09	US-PATENT-3,384,895 NASA-CASE-XMF-03934 US-PATENT-APPL-SN-530958 US-PATENT-CLASS-250-83.3
N71-22986*	c 10	US-PATENT-3,379,885 NASA-CASE-XMF-01892 US-PATENT-APPL-SN-464878 US-PATENT-CLASS-328-167
N71-22987*	c 09	US-PATENT-3,375,451 NASA-CASE-XLE-04788 US-PATENT-APPL-SN-537617 US-PATENT-CLASS-313-352
N71-22988*	c 09	US-PATENT-3,396,303 NASA-CASE-XGS-03304 US-PATENT-APPL-SN-483886 US-PATENT-CLASS-73-1
N71-22989*	c 14	US-PATENT-3,381,517 NASA-CASE-XLA-01551 US-PATENT-APPL-SN-422092 US-PATENT-CLASS-73-190
N71-22990*	c 14	US-PATENT-3,382,714 NASA-CASE-XMS-04201 US-PATENT-APPL-SN-507254 US-PATENT-CLASS-324-70
N71-22991*	c 14	US-PATENT-3,379,974 NASA-CASE-XLA-01791 US-PATENT-APPL-SN-462763 US-PATENT-CLASS-250-227
N71-22992*	c 14	US-PATENT-3,397,318 NASA-CASE-XGS-01023 US-PATENT-APPL-SN-446131 US-PATENT-CLASS-73-65
N71-22993*	c 14	US-PATENT-3,377,845 NASA-CASE-XMS-05365 US-PATENT-APPL-SN-515484 US-PATENT-CLASS-310-8.5
N71-22994*	c 15	US-PATENT-3,387,149 NASA-CASE-XFR-05421 US-PATENT-APPL-SN-567686 US-PATENT-CLASS-24-126
N71-22995*	c 14	US-PATENT-3,378,892 NASA-CASE-XNP-08680 US-PATENT-APPL-SN-562444 US-PATENT-CLASS-73-9
N71-22996*	c 14	US-PATENT-3,376,730 NASA-CASE-XGS-01331 US-PATENT-APPL-SN-445807 US-PATENT-CLASS-250-218
N71-22997*	c 15	US-PATENT-3,388,258 NASA-CASE-XNP-01641 US-PATENT-APPL-SN-464885 US-PATENT-CLASS-308-10
N71-22998*	c 18	US-PATENT-3,378,315 NASA-CASE-XGS-02435 US-PATENT-APPL-SN-392965 US-PATENT-CLASS-106-40
N71-22999*	c 09	US-PATENT-3,382,082 NASA-CASE-XLA-00781 US-PATENT-APPL-SN-307271 US-PATENT-CLASS-88-14
N71-23001*	c 07	US-PATENT-3,364,813 NASA-CASE-XGS-01812 US-PATENT-APPL-SN-392973 US-PATENT-CLASS-340-174.1
N71-23006*	c 03	US-PATENT-3,380,042 NASA-CASE-XGS-02631 US-PATENT-APPL-SN-425972 US-PATENT-CLASS-136-133
N71-23007*	c 02	US-PATENT-3,340,099 NASA-CASE-XMF-04163 US-PATENT-APPL-SN-424156 US-PATENT-CLASS-73-189
N71-23008*	c 31	US-PATENT-3,340,732 NASA-CASE-XLA-04804 US-PATENT-APPL-SN-577546 US-PATENT-CLASS-102-49.5
N71-23009*	c 31	US-PATENT-3,384,016 NASA-CASE-XGS-02630 US-PATENT-APPL-SN-474531 US-PATENT-CLASS-244-1
N71-23015*	c 09	US-PATENT-3,341,151 NASA-CASE-XGS-02751 US-PATENT-APPL-SN-491059 US-PATENT-CLASS-307-288
N71-23021*	c 09	US-PATENT-3,374,366 NASA-CASE-XAC-02807 US-PATENT-APPL-SN-456581 US-PATENT-CLASS-324-120
N71-23022*	c 15	US-PATENT-3,384,820 NASA-CASE-XMS-01625 US-PATENT-APPL-SN-418933 US-PATENT-CLASS-136-86
N71-23023*	c 15	US-PATENT-3,389,017 NASA-CASE-XMF-04042 US-PATENT-APPL-SN-605518 US-PATENT-CLASS-55-204
N71-23024*	c 15	US-PATENT-3,397,512 NASA-CASE-XNP-01747 US-PATENT-APPL-SN-413661 US-PATENT-CLASS-251-148
N71-23025*	c 15	US-PATENT-3,341,169 NASA-CASE-XNP-08877 US-PATENT-APPL-SN-574282 US-PATENT-CLASS-62-6
N71-23026*	c 07	US-PATENT-3,367,121 NASA-CASE-XNP-02791 US-PATENT-APPL-SN-390251 US-PATENT-CLASS-178-6
N71-23027*	c 09	US-PATENT-3,383,461 NASA-CASE-XNP-01960 US-PATENT-APPL-SN-438135 US-PATENT-CLASS-29-572
N71-23029*	c 10	US-PATENT-3,340,599 NASA-CASE-XGS-03427 US-PATENT-APPL-SN-500446 US-PATENT-CLASS-307-265
N71-23030*	c 11	US-PATENT-3,383,524 NASA-CASE-XNP-03578 US-PATENT-APPL-SN-445292 US-PATENT-CLASS-73-147
N71-23033*	c 10	US-PATENT-3,342,066 NASA-CASE-XNP-01318 US-PATENT-APPL-SN-380965 US-PATENT-CLASS-340-174
N71-23036*	c 14	US-PATENT-3,388,387 NASA-CASE-XNP-01660 US-PATENT-APPL-SN-578916 US-PATENT-CLASS-73-4
N71-23037*	c 14	US-PATENT-3,383,903 NASA-CASE-XAC-01662 US-PATENT-APPL-SN-385520 US-PATENT-CLASS-324-117
N71-23039*	c 14	US-PATENT-3,365,665 NASA-CASE-XNP-01659 US-PATENT-APPL-SN-410332 US-PATENT-CLASS-136-230
N71-23040*	c 14	US-PATENT-3,377,208 NASA-CASE-XNP-05535 US-PATENT-APPL-SN-487939 US-PATENT-CLASS-244-1
N71-23041*	c 14	US-PATENT-3,339,863 NASA-CASE-XNP-01056 US-PATENT-APPL-SN-377146 US-PATENT-CLASS-250-41.9
N71-23042*	c 11	US-PATENT-3,340,395 NASA-CASE-XMS-02930 US-PATENT-APPL-SN-417253 US-PATENT-CLASS-250-52
N71-23043*	c 26	US-PATENT-3,340,397 NASA-CASE-XNP-01959 US-PATENT-APPL-SN-410330 US-PATENT-CLASS-136-89
N71-23046*	c 17	US-PATENT-3,396,057 NASA-CASE-XNP-04338 US-PATENT-APPL-SN-461765 US-PATENT-CLASS-29-182.2
N71-23047*	c 18	US-PATENT-3,421,864 NASA-CASE-XLA-01995 US-PATENT-APPL-SN-411945 US-PATENT-CLASS-148-6.16
N71-23048*	c 15	US-PATENT-3,395,053 NASA-CASE-XNP-03972 US-PATENT-APPL-SN-502710 US-PATENT-CLASS-184-1
N71-23049*	c 15	US-PATENT-3,367,445 NASA-CASE-XMF-01049 US-PATENT-APPL-SN-506137 US-PATENT-CLASS-339-5
N71-23050*	c 15	US-PATENT-3,375,479 NASA-CASE-XMF-01730 US-PATENT-APPL-SN-517869 US-PATENT-CLASS-228-8
N71-23051*	c 15	US-PATENT-3,373,914 NASA-CASE-XAC-01158 US-PATENT-APPL-SN-420250 US-PATENT-CLASS-137-625.5
N71-23052*	c 15	US-PATENT-3,369,564 NASA-CASE-XLA-03497 US-PATENT-APPL-SN-392992 US-PATENT-CLASS-156-285
N71-23080*	c 05	US-PATENT-3,373,069 NASA-CASE-XLE-02531 US-PATENT-APPL-SN-425096 US-PATENT-CLASS-312-1
N71-23081*	c 28	US-PATENT-3,337,279 NASA-CASE-XNP-02923 US-PATENT-APPL-SN-494280 US-PATENT-CLASS-60-202
N71-23084*	c 10	US-PATENT-3,367,114 NASA-CASE-XLA-01219 US-PATENT-APPL-SN-402978 US-PATENT-CLASS-332-1
N71-23085*	c 33	US-PATENT-3,366,894 NASA-CASE-XFR-03802 US-PATENT-APPL-SN-460877 US-PATENT-CLASS-73-190
N71-23086*	c 15	US-PATENT-3,367,182 NASA-CASE-XMS-04533 US-PATENT-APPL-SN-557016 US-PATENT-CLASS-202-234
N71-23087*	c 14	US-PATENT-3,397,117 NASA-CASE-XNP-03918 US-PATENT-APPL-SN-510475 US-PATENT-CLASS-73-88.5
N71-23088*	c 18	US-PATENT-3,388,590 NASA-CASE-XNP-00597 US-PATENT-APPL-SN-410325 US-PATENT-CLASS-65-7
N71-23092*	c 14	US-PATENT-3,337,315 NASA-CASE-XLA-01530 US-PATENT-APPL-SN-420466 US-PATENT-CLASS-188-1
N71-23093*	c 14	US-PATENT-3,337,004 NASA-CASE-XLE-03280 US-PATENT-APPL-SN-517156 US-PATENT-CLASS-73-400
N71-23096*	c 05	US-PATENT-3,379,064 NASA-CASE-XMS-06064 US-PATENT-APPL-SN-563646 US-PATENT-CLASS-2-14
N71-23097*	c 09	US-PATENT-3,378,851 NASA-CASE-XNP-02140 US-PATENT-APPL-SN-440036 US-PATENT-CLASS-330-61

N71-23098*	c 07	US-PATENT-3,337,812	N71-23269*	c 14	US-PATENT-3,419,329	N71-23544*	c 10	US-PATENT-3,393,347
		NASA-CASE-XGS-00740			NASA-CASE-XLA-01584			NASA-CASE-XNP-05382
		US-PATENT-APPL-SN-353644			US-PATENT-APPL-SN-416943			US-PATENT-APPL-SN-536217
		US-PATENT-CLASS-325-305			US-PATENT-CLASS-250-203			US-PATENT-CLASS-332-19
N71-23099*	c 10	US-PATENT-3,341,778	N71-23270*	c 09	US-PATENT-3,389,260	N71-23545*	c 09	US-PATENT-3,393,380
		NASA-CASE-XNP-08875			NASA-CASE-XMS-04919			NASA-CASE-XMF-04367
		US-PATENT-APPL-SN-640455			US-PATENT-APPL-SN-516155			US-PATENT-APPL-SN-457874
		US-PATENT-CLASS-343-6.5			US-PATENT-CLASS-307-263			US-PATENT-CLASS-307-235
N71-23159*	c 05	US-PATENT-3,380,049	N71-23271*	c 10	US-PATENT-3,417,266	N71-23548*	c 09	US-PATENT-3,404,289
		NASA-CASE-XMF-06589			NASA-CASE-XNP-00952			NASA-CASE-XNP-06507
		US-PATENT-APPL-SN-543206			US-PATENT-APPL-SN-388967			US-PATENT-APPL-SN-605099
		US-PATENT-CLASS-5-82			US-PATENT-CLASS-317-148.5			US-PATENT-CLASS-333-98
N71-23161*	c 05	US-PATENT-3,343,180	N71-23289*	c 21	US-PATENT-3,417,298	N71-23573*	c 09	US-PATENT-3,419,827
		NASA-CASE-XAC-07043			NASA-CASE-XMF-01669			NASA-CASE-XGS-01418
		US-PATENT-APPL-SN-566397			US-PATENT-APPL-SN-399419			US-PATENT-APPL-SN-392969
		US-PATENT-CLASS-2-2.1			US-PATENT-CLASS-74-5.47			US-PATENT-CLASS-333-73
N71-23174*	c 14	US-PATENT-3,405,406	N71-23292*	c 26	US-PATENT-3,415,126	N71-23598*	c 09	US-PATENT-3,393,384
		NASA-CASE-XGS-02610			NASA-CASE-XLE-10715			NASA-CASE-XER-11019
		US-PATENT-APPL-SN-491054			US-PATENT-APPL-SN-603397			US-PATENT-APPL-SN-711971
		US-PATENT-CLASS-321-60			US-PATENT-CLASS-252-62.3			US-PATENT-CLASS-331-78
N71-23175*	c 14	US-PATENT-3,417,316	N71-23293*	c 28	US-PATENT-3,409,554	N71-23599*	c 22	US-PATENT-3,470,489
		NASA-CASE-XKS-03509			NASA-CASE-XNP-06942			NASA-CASE-XLE-01903
		US-PATENT-APPL-SN-566392			US-PATENT-APPL-SN-563651			US-PATENT-APPL-SN-466868
		US-PATENT-CLASS-356-166			US-PATENT-CLASS-60-202			US-PATENT-CLASS-310-4
N71-23185*	c 04	US-PATENT-3,414,358	N71-23295*	c 08	US-PATENT-3,412,559	N71-23654*	c 26	US-PATENT-3,393,330
		NASA-CASE-XAC-05472			NASA-CASE-XNP-04819			NASA-CASE-XLE-02798
		US-PATENT-APPL-SN-483885			US-PATENT-APPL-SN-502701			US-PATENT-APPL-SN-660571
		US-PATENT-CLASS-128-2.05			US-PATENT-CLASS-340-146.2			US-PATENT-CLASS-148-1.5
N71-23187*	c 03	US-PATENT-3,412,729	N71-23311*	c 09	US-PATENT-3,390,378	N71-23658*	c 18	US-PATENT-3,390,020
		NASA-CASE-XGS-03390			NASA-CASE-XGS-03632			NASA-CASE-XLE-02647
		US-PATENT-APPL-SN-551182			US-PATENT-APPL-SN-502739			US-PATENT-APPL-SN-430226
		US-PATENT-CLASS-136-89			US-PATENT-CLASS-307-260			US-PATENT-CLASS-220-9
N71-23188*	c 09	US-PATENT-3,419,433	N71-23315*	c 10	US-PATENT-3,390,282	N71-23662*	c 10	US-PATENT-3,392,864
		NASA-CASE-XMF-14301			NASA-CASE-XLA-03356			NASA-CASE-XGS-01118
		US-PATENT-APPL-SN-697341			US-PATENT-APPL-SN-536216			US-PATENT-APPL-SN-408442
		US-PATENT-CLASS-321-2			US-PATENT-CLASS-307-234			US-PATENT-CLASS-235-154
N71-23189*	c 09	US-PATENT-3,470,446	N71-23316*	c 09	US-PATENT-3,448,290	N71-23663*	c 10	US-PATENT-3,399,299
		NASA-CASE-XNP-06028			NASA-CASE-XMS-09352			NASA-CASE-XKS-04631
		US-PATENT-APPL-SN-649356			US-PATENT-APPL-SN-564919			US-PATENT-APPL-SN-663180
		US-PATENT-CLASS-315-26			US-PATENT-CLASS-323-22			US-PATENT-CLASS-200-82
N71-23190*	c 09	US-PATENT-3,431,460	N71-23317*	c 05	US-PATENT-3,417,321	N71-23669*	c 10	US-PATENT-3,433,909
		NASA-CASE-XLE-04501			NASA-CASE-XMS-06061			NASA-CASE-XAC-10607
		US-PATENT-APPL-SN-522794			US-PATENT-APPL-SN-605092			US-PATENT-APPL-SN-694345
		US-PATENT-CLASS-313-231			US-PATENT-CLASS-307-260			US-PATENT-CLASS-331-111
N71-23191*	c 09	US-PATENT-3,413,510	N71-23336*	c 03	US-PATENT-3,467,837	N71-23698*	c 14	US-PATENT-3,470,495
		NASA-CASE-XMS-05890			NASA-CASE-XGS-01513			NASA-CASE-XGS-08259
		US-PATENT-APPL-SN-650166			US-PATENT-APPL-SN-502756			US-PATENT-APPL-SN-666551
		US-PATENT-CLASS-137-554			US-PATENT-CLASS-136-166			US-PATENT-CLASS-242-192
N71-23225*	c 14	US-PATENT-3,414,012	N71-23354*	c 03	US-PATENT-3,390,017	N71-23699*	c 14	US-PATENT-3,460,781
		NASA-CASE-XNP-04817			NASA-CASE-XLE-04535			NASA-CASE-XMF-10289
		US-PATENT-APPL-SN-516152			US-PATENT-APPL-SN-588671			US-PATENT-APPL-SN-674356
		US-PATENT-CLASS-73-12			US-PATENT-CLASS-250-212			US-PATENT-CLASS-324-72
N71-23226*	c 14	US-PATENT-3,412,598	N71-23365*	c 17	US-PATENT-3,437,818	N71-23710*	c 18	US-PATENT-3,470,466
		NASA-CASE-XNP-06509			NASA-CASE-XNP-03063			NASA-CASE-XLE-08511
		US-PATENT-APPL-SN-570095			US-PATENT-APPL-SN-521994			US-PATENT-APPL-SN-635972
		US-PATENT-CLASS-73-194			US-PATENT-CLASS-75-172			US-PATENT-CLASS-29-182.1
N71-23227*	c 14	US-PATENT-3,411,356	N71-23401*	c 14	US-PATENT-3,413,115	N71-23723*	c 30	US-PATENT-3,419,363
		NASA-CASE-XMF-06515			NASA-CASE-XGS-03230			NASA-CASE-XNP-09832
		US-PATENT-APPL-SN-548808			US-PATENT-APPL-SN-517158			US-PATENT-APPL-SN-632163
		US-PATENT-CLASS-73-432			US-PATENT-CLASS-250-83			US-PATENT-CLASS-343-100
N71-23230*	c 06	US-PATENT-3,408,870	N71-23405*	c 07	US-PATENT-3,419,992	N71-23725*	c 14	US-PATENT-3,417,399
		NASA-CASE-XMF-06409			NASA-CASE-XGS-01537			NASA-CASE-XGS-01013
		US-PATENT-APPL-SN-575830			US-PATENT-APPL-SN-432026			US-PATENT-APPL-SN-665209
		US-PATENT-CLASS-260-448.2			US-PATENT-CLASS-325-163			US-PATENT-CLASS-73-133
N71-23239*	c 03	US-PATENT-3,433,818	N71-23443*	c 09	US-PATENT-3,417,332	N71-23726*	c 14	US-PATENT-3,460,381
		NASA-CASE-XMF-08217			NASA-CASE-XLE-02823			NASA-CASE-XMF-05224
		US-PATENT-APPL-SN-688807			US-PATENT-APPL-SN-491058			US-PATENT-APPL-SN-660842
		US-PATENT-CLASS-321-2			US-PATENT-CLASS-310-10			US-PATENT-CLASS-73-189
N71-23240*	c 14	US-PATENT-3,470,443	N71-23449*	c 03	US-PATENT-3,393,332	N71-23755*	c 14	US-PATENT-3,465,584
		NASA-CASE-XLA-00941			NASA-CASE-XLE-08569			NASA-CASE-XMF-04134
		US-PATENT-APPL-SN-508873			US-PATENT-APPL-SN-641420			US-PATENT-APPL-SN-610723
		US-PATENT-CLASS-250-227			US-PATENT-CLASS-136-89			US-PATENT-CLASS-73-4
N71-23248*	c 17	US-PATENT-3,407,304	N71-23497*	c 01	US-PATENT-3,472,698	N71-23790*	c 14	US-PATENT-3,472,059
		NASA-CASE-XLE-03629			NASA-CASE-XLA-01486			NASA-CASE-XAC-04885
		US-PATENT-APPL-SN-554950			US-PATENT-APPL-SN-484485			US-PATENT-APPL-SN-573432
		US-PATENT-CLASS-75-170			US-PATENT-CLASS-244-13			US-PATENT-CLASS-73-141
N71-23254*	c 15	US-PATENT-3,415,643	N71-23499*	c 06	US-PATENT-3,392,936	N71-23797*	c 14	US-PATENT-3,415,116
		NASA-CASE-XFR-05302			NASA-CASE-XNP-03835			NASA-CASE-XNP-06510
		US-PATENT-APPL-SN-685463			US-PATENT-APPL-SN-456874			US-PATENT-APPL-SN-562445
		US-PATENT-CLASS-85-7			US-PATENT-CLASS-44-77			US-PATENT-CLASS-250-203
N71-23255*	c 15	US-PATENT-3,443,472	N71-23500*	c 06	US-PATENT-3,393,059	N71-23798*	c 15	US-PATENT-3,417,247
		NASA-CASE-XMS-07487			NASA-CASE-XNP-03250			NASA-CASE-XMF-02330
		US-PATENT-APPL-SN-580365			US-PATENT-APPL-SN-485058			US-PATENT-APPL-SN-608944
		US-PATENT-CLASS-244-83			US-PATENT-CLASS-260-85.5			US-PATENT-CLASS-219-130
N71-23256*	c 15	US-PATENT-3,409,252	N71-23525*	c 09	US-PATENT-3,419,537	N71-23809*	c 15	US-PATENT-3,469,069
		NASA-CASE-XMF-03290			NASA-CASE-XGS-02317			NASA-CASE-XAC-10019
		US-PATENT-APPL-SN-479353			US-PATENT-APPL-SN-576183			US-PATENT-APPL-SN-686209
		US-PATENT-CLASS-53-22			US-PATENT-CLASS-328-61			US-PATENT-CLASS-74-89.18
N71-23267*	c 14	US-PATENT-3,415,032	N71-23527*	c 06	US-PATENT-3,464,018	N71-23810*	c 15	US-PATENT-3,472,086
		NASA-CASE-XLE-04026			NASA-CASE-XLE-01997			NASA-CASE-XLE-05033
		US-PATENT-APPL-SN-617770			US-PATENT-APPL-SN-427990			US-PATENT-APPL-SN-510474
		US-PATENT-CLASS-13-26			US-PATENT-CLASS-23-230			US-PATENT-CLASS-252-12
N71-23268*	c 14	US-PATENT-3,470,304	N71-23543*	c 10	US-PATENT-3,472,625	N71-23811*	c 15	US-PATENT-3,466,243
		NASA-CASE-XLA-01907			NASA-CASE-XMS-00913			NASA-CASE-XNP-05297
		US-PATENT-APPL-SN-335441			US-PATENT-APPL-SN-416945			US-PATENT-APPL-SN-640458
		US-PATENT-CLASS-356-72			US-PATENT-CLASS-317-31			US-PATENT-CLASS-72-354

N71-23812*	c 15	US-PATENT-3,443,412 NASA-CASE-XMF-07808 US-PATENT-APPL-SN-684178 US-PATENT-CLASS-308-2 US-PATENT-3,463,563	N71-24232*	c 14	US-PATENT-3,434,855 NASA-CASE-XAC-04458 US-PATENT-APPL-SN-534975 US-PATENT-CLASS-73-400 US-PATENT-3,392,586	N71-24623*	c 05	US-PATENT-CLASS-324-77 US-PATENT-3,548,107 NASA-CASE-XMS-09635 US-PATENT-APPL-SN-586329 US-PATENT-CLASS-2-2.1 US-PATENT-3,516,091
N71-23815*	c 15	NASA-CASE-XMF-07069 US-PATENT-APPL-SN-672382 US-PATENT-CLASS-219-125 US-PATENT-3,469,068	N71-24233*	c 14	NASA-CASE-XGS-04478 US-PATENT-APPL-SN-566717 US-PATENT-CLASS-73-88.5 US-PATENT-3,460,378	N71-24624*	c 07	NASA-CASE-GSC-10131-1 US-PATENT-APPL-SN-754055 US-PATENT-CLASS-340-172.5 US-PATENT-3,546,684
N71-23816*	c 15	NASA-CASE-XLE-03803 US-PATENT-APPL-SN-505765 US-PATENT-CLASS-220-9 US-PATENT-3,392,865	N71-24234*	c 14	NASA-CASE-XMF-10968 US-PATENT-APPL-SN-644447 US-PATENT-CLASS-73-15.6 US-PATENT-3,469,437	N71-24625*	c 07	NASA-CASE-XMS-09610 US-PATENT-APPL-SN-766170 US-PATENT-CLASS-343-113 US-PATENT-3,540,054
N71-23817*	c 15	NASA-CASE-XLE-06773 US-PATENT-APPL-SN-646124 US-PATENT-CLASS-72-467 US-PATENT-3,469,436	N71-24276*	c 33	NASA-CASE-XLA-02059 US-PATENT-APPL-SN-576182 US-PATENT-CLASS-165-12 US-PATENT-3,406,742	N71-24633*	c 08	NASA-CASE-NPO-10567 US-PATENT-APPL-SN-679055 US-PATENT-CLASS-235-153 US-PATENT-3,517,171
N71-23828*	c 17	NASA-CASE-XMF-02303 US-PATENT-APPL-SN-453229 US-PATENT-CLASS-148-6.20 US-PATENT-3,416,975	N71-24285*	c 32	NASA-CASE-XMF-02392 US-PATENT-APPL-SN-596735 US-PATENT-CLASS-73-49.2 US-PATENT-3,399,574	N71-24650*	c 08	NASA-CASE-NPO-10150 US-PATENT-APPL-SN-660843 US-PATENT-CLASS-340-347 US-PATENT-3,537,103
N71-23912*	c 31	NASA-CASE-XMF-05941 US-PATENT-APPL-SN-653277 US-PATENT-CLASS-244-1 US-PATENT-3,443,773	N71-24315*	c 31	NASA-CASE-XLA-04901 US-PATENT-APPL-SN-586325 US-PATENT-CLASS-244-1 US-PATENT-3,405,887	N71-24679*	c 15	NASA-CASE-XNP-10475 US-PATENT-APPL-SN-763868 US-PATENT-CLASS-72-369 US-PATENT-3,546,917
N71-23968*	c 28	NASA-CASE-XLE-04857 US-PATENT-APPL-SN-621742 US-PATENT-CLASS-239-127.1 US-PATENT-3,460,759	N71-24321*	c 28	NASA-CASE-XNP-03692 US-PATENT-APPL-SN-640787 US-PATENT-CLASS-60-263 US-PATENT-3,443,384	N71-24681*	c 03	NASA-CASE-XLE-08569-2 US-PATENT-APPL-SN-829825 US-PATENT-CLASS-29-572 US-PATENT-3,541,679
N71-23971*	c 32	NASA-CASE-XAC-05632 US-PATENT-APPL-SN-568355 US-PATENT-CLASS-244-77 US-PATENT-3,412,961	N71-24583*	c 07	NASA-CASE-NPO-10096 US-PATENT-APPL-SN-730700 US-PATENT-CLASS-329-140 US-PATENT-3,533,001	N71-24692*	c 12	NASA-CASE-XFR-02007 US-PATENT-APPL-SN-378080 US-PATENT-CLASS-73-389 US-PATENT-3,273,399
N71-23976*	c 23	NASA-CASE-XLA-01987 US-PATENT-APPL-SN-542713 US-PATENT-CLASS-346-107 US-PATENT-3,392,403	N71-24595*	c 09	NASA-CASE-GSC-10021-1 US-PATENT-APPL-SN-790420 US-PATENT-CLASS-343-7.5 US-PATENT-3,540,045	N71-24693*	c 14	NASA-CASE-XMF-04415 US-PATENT-APPL-SN-644446 US-PATENT-CLASS-33-174 US-PATENT-3,360,864
N71-24035*	c 31	NASA-CASE-XLA-01027 US-PATENT-APPL-SN-494283 US-PATENT-CLASS-52-272 US-PATENT-3,416,274	N71-24596*	c 09	NASA-CASE-XNP-01306-2 US-PATENT-APPL-SN-684083 US-PATENT-CLASS-328-133 US-PATENT-3,509,475	N71-24694*	c 15	NASA-CASE-GSC-10306-1 US-PATENT-APPL-SN-789278 US-PATENT-CLASS-248-358 US-PATENT-3,537,672
N71-24042*	c 15	NASA-CASE-XNP-04731 US-PATENT-APPL-SN-534966 US-PATENT-CLASS-103-48 US-PATENT-3,367,271	N71-24597*	c 09	NASA-CASE-ARC-10132-1 US-PATENT-APPL-SN-759460 US-PATENT-CLASS-73-398 US-PATENT-3,545,275	N71-24695*	c 15	NASA-CASE-XNP-06936 US-PATENT-APPL-SN-640786 US-PATENT-CLASS-318-382 US-PATENT-3,487,281
N71-24043*	c 15	NASA-CASE-XKS-03338 US-PATENT-APPL-SN-547072 US-PATENT-CLASS-89-1.806 US-PATENT-3,415,156	N71-24599*	c 15	NASA-CASE-MS-12052-1 US-PATENT-APPL-SN-770371 US-PATENT-CLASS-254-150 US-PATENT-CLASS-254-173	N71-24696*	c 15	NASA-CASE-NPO-10173 US-PATENT-APPL-SN-796360 US-PATENT-CLASS-310-101 US-PATENT-3,535,570
N71-24044*	c 15	NASA-CASE-XMF-06888 US-PATENT-APPL-SN-591000 US-PATENT-CLASS-62-40 US-PATENT-3,415,069	N71-24600*	c 15	NASA-CASE-XGS-08718 US-PATENT-APPL-SN-785611 US-PATENT-CLASS-244-1 US-PATENT-CLASS-244-150	N71-24717*	c 09	NASA-CASE-XMF-08804 US-PATENT-APPL-SN-683606 US-PATENT-CLASS-324-181 US-PATENT-3,543,159
N71-24045*	c 15	NASA-CASE-XGS-04548 US-PATENT-APPL-SN-672383 US-PATENT-CLASS-74-100 US-PATENT-3,460,397	N71-24601*	c 15	NASA-CASE-XNP-057861 US-PATENT-APPL-SN-557861 US-PATENT-CLASS-320-17 US-PATENT-3,413,536	N71-24718*	c 03	NASA-CASE-MS-10960-1 US-PATENT-APPL-SN-751198 US-PATENT-CLASS-204-305 US-PATENT-3,547,801
N71-24046*	c 15	NASA-CASE-XLE-10337 US-PATENT-APPL-SN-594633 US-PATENT-CLASS-252-26 US-PATENT-3,391,080	N71-24602*	c 05	NASA-CASE-XKS-10804 US-PATENT-APPL-SN-691909 US-PATENT-CLASS-35-17 US-PATENT-3,508,347	N71-24719*	c 03	NASA-CASE-GSC-10487-1 US-PATENT-APPL-SN-828983 US-PATENT-CLASS-320-39 US-PATENT-3,541,422
N71-24047*	c 15	NASA-CASE-XGS-03120 US-PATENT-APPL-SN-485958 US-PATENT-CLASS-156-3 US-PATENT-3,470,043	N71-24603*	c 06	NASA-CASE-XNP-09699 US-PATENT-APPL-SN-711972 US-PATENT-CLASS-73-17 US-PATENT-3,546,920	N71-24725*	c 23	NASA-CASE-GSC-10188-1 US-PATENT-APPL-SN-791888 US-PATENT-CLASS-62-384 US-PATENT-3,545,226
N71-24074*	c 16	NASA-CASE-XLA-03375 US-PATENT-APPL-SN-512562 US-PATENT-CLASS-356-104 US-PATENT-3,446,558	N71-24607*	c 06	NASA-CASE-XNP-09699 US-PATENT-APPL-SN-711972 US-PATENT-CLASS-73-17 US-PATENT-3,546,920	N71-24728*	c 05	NASA-CASE-MS-12243-1 US-PATENT-APPL-SN-857445 US-PATENT-CLASS-244-1 US-PATENT-3,537,668
N71-24142*	c 17	NASA-CASE-XLE-06969 US-PATENT-APPL-SN-655675 US-PATENT-CLASS-148-126 US-PATENT-3,463,679	N71-24612*	c 07	NASA-CASE-XMF-06092 US-PATENT-APPL-SN-550088 US-PATENT-CLASS-178-7.1 US-PATENT-3,470,318	N71-24729*	c 05	NASA-CASE-MS-13282-1 US-PATENT-APPL-SN-8498 US-PATENT-CLASS-128-2.1 US-PATENT-3,548,812
N71-24145*	c 33	NASA-CASE-XLE-03432 US-PATENT-APPL-SN-559349 US-PATENT-CLASS-13-35 US-PATENT-3,409,730	N71-24613*	c 07	NASA-CASE-NPO-10851 US-PATENT-APPL-SN-805406 US-PATENT-CLASS-325-325 US-PATENT-3,551,816	N71-24730*	c 05	NASA-CASE-XMS-09637-1 US-PATENT-APPL-SN-785710 US-PATENT-CLASS-2-2.1 US-PATENT-3,537,107
N71-24147*	c 05	NASA-CASE-XMS-10269 US-PATENT-APPL-SN-590158 US-PATENT-CLASS-165-46 US-PATENT-3,425,486	N71-24614*	c 07	NASA-CASE-XKS-09340 US-PATENT-APPL-SN-666555 US-PATENT-CLASS-343-703 US-PATENT-3,540,056	N71-24736*	c 28	NASA-CASE-XLE-03157 US-PATENT-APPL-SN-591014 US-PATENT-CLASS-60-240 US-PATENT-3,408,816
N71-24164*	c 15	NASA-CASE-XLA-01494 US-PATENT-APPL-SN-499122 US-PATENT-CLASS-156-545 US-PATENT-3,416,988	N71-24618*	c 09	NASA-CASE-FRC-10029 US-PATENT-APPL-SN-760389 US-PATENT-CLASS-128-2.06 US-PATENT-3,547,105	N71-24738*	c 05	NASA-CASE-ARC-10100-1 US-PATENT-APPL-SN-797058 US-PATENT-CLASS-128-24 US-PATENT-CLASS-128-25
N71-24170*	c 16	NASA-CASE-XLA-04295 US-PATENT-APPL-SN-546149 US-PATENT-CLASS-356-107 US-PATENT-3,468,609	N71-24621*	c 07	NASA-CASE-GSC-10116-1 US-PATENT-APPL-SN-783375 US-PATENT-CLASS-179-15 US-PATENT-CLASS-325-4 US-PATENT-CLASS-343-100	N71-24739*	c 06	NASA-CASE-APC-10099-1 US-PATENT-APPL-SN-702967 US-PATENT-CLASS-260-2.5 US-PATENT-3,549,564
N71-24183*	c 18	NASA-CASE-XGS-04799 US-PATENT-APPL-SN-452944 US-PATENT-CLASS-106-84 US-PATENT-3,416,939	N71-24622*	c 07	NASA-CASE-NPO-10388 US-PATENT-APPL-SN-725432 US-PATENT-CLASS-179-15	N71-24740*	c 06	NASA-CASE-XMF-03074 US-PATENT-APPL-SN-593595 US-PATENT-CLASS-260-72.5 US-PATENT-3,516,971
N71-24184*	c 18	NASA-CASE-XNP-02139 US-PATENT-APPL-SN-430777 US-PATENT-CLASS-106-84				N71-24741*	c 07	NASA-CASE-NPO-10118

		US-PATENT-APPL-SN-704465			US-PATENT-APPL-SN-698630	N71-24910*	c 15	NASA-CASE-ERC-10045
		US-PATENT-CLASS-235-152			US-PATENT-CLASS-333-83			US-PATENT-APPL-SN-763685
		US-PATENT-3,541,314			US-PATENT-3,541,479			US-PATENT-CLASS-73-40,7
N71-24742*	c 07	NASA-CASE-NPO-10140	N71-24842*	c 09	NASA-CASE-MS-12209	N71-24911*	c 17	US-PATENT-3,548,636
		US-PATENT-APPL-SN-691737			US-PATENT-APPL-SN-881039			NASA-CASE-XLE-04946
		US-PATENT-CLASS-187-7.1			US-PATENT-CLASS-343-797			US-PATENT-APPL-SN-605093
		US-PATENT-3,541,250			US-PATENT-3,546,705			US-PATENT-CLASS-118-308
N71-24750*	c 31	NASA-CASE-XGS-01654	N71-24843*	c 09	NASA-CASE-XMF-06617			US-PATENT-3,472,202
		US-PATENT-APPL-SN-434148			US-PATENT-APPL-SN-656993	N71-24934*	c 18	NASA-CASE-NPO-10051
		US-PATENT-CLASS-102-50			US-PATENT-CLASS-324-71			US-PATENT-APPL-SN-711898
		US-PATENT-3,282,541			US-PATENT-3,541,439			US-PATENT-CLASS-73-38
N71-24798*	c 10	NASA-CASE-XLE-03061-1	N71-24844*	c 10	NASA-CASE-NPO-10169	N71-24948*	c 21	US-PATENT-3,548,633
		US-PATENT-APPL-SN-632152			US-PATENT-APPL-SN-701733			NASA-CASE-ERC-10090
		US-PATENT-CLASS-340-412			US-PATENT-CLASS-328-171			US-PATENT-APPL-SN-811542
		US-PATENT-3,546,694			US-PATENT-3,541,459			US-PATENT-CLASS-343-112
N71-24799*	c 10	NASA-CASE-XNP-06505	N71-24857*	c 23	NASA-CASE-XMS-06056-1			US-PATENT-3,550,129
		US-PATENT-APPL-SN-562933			US-PATENT-APPL-SN-532006	N71-24964*	c 11	NASA-CASE-NPO-10141
		US-PATENT-CLASS-307-254			US-PATENT-CLASS-350-189			US-PATENT-APPL-SN-673227
		US-PATENT-3,501,648			US-PATENT-3,472,577			US-PATENT-CLASS-62-55.5
N71-24800*	c 09	NASA-CASE-ERC-10075	N71-24858*	c 33	NASA-CASE-MFS-14253			US-PATENT-3,443,390
		US-PATENT-APPL-SN-775870			US-PATENT-APPL-SN-709622	N71-24984*	c 15	NASA-CASE-MFS-14971
		US-PATENT-CLASS-321-45			US-PATENT-CLASS-161-69			US-PATENT-APPL-SN-827579
		US-PATENT-3,539,905			US-PATENT-3,551,266			US-PATENT-CLASS-74-468
N71-24803*	c 09	NASA-CASE-NPO-10242	N71-24861*	c 10	NASA-CASE-XMF-05195			US-PATENT-3,541,875
		US-PATENT-APPL-SN-749181			US-PATENT-APPL-SN-785595	N71-24985*	c 11	NASA-CASE-KSC-10126
		US-PATENT-CLASS-307-88			US-PATENT-CLASS-318-599			US-PATENT-APPL-SN-845973
		US-PATENT-3,541,346			US-PATENT-3,523,228			US-PATENT-CLASS-73-15
N71-24804*	c 09	NASA-CASE-GSC-10299-1	N71-24862*	c 10	NASA-CASE-FRC-10010			US-PATENT-3,545,252
		US-PATENT-APPL-SN-836367			US-PATENT-APPL-SN-771937	N71-25139*	c 10	NASA-CASE-MFS-10068
		US-PATENT-CLASS-343-100			US-PATENT-CLASS-307-235			US-PATENT-APPL-SN-700541
		US-PATENT-3,540,050			US-PATENT-3,543,050			US-PATENT-CLASS-321-9
N71-24805*	c 09	NASA-CASE-XMF-06892	N71-24863*	c 10	NASA-CASE-XMF-02966			US-PATENT-3,487,288
		US-PATENT-APPL-SN-757875			US-PATENT-APPL-SN-560968	N71-25213*	c 28	NASA-CASE-GSC-10709-1
		US-PATENT-CLASS-318-318			US-PATENT-CLASS-324-70			US-PATENT-APPL-SN-791288
		US-PATENT-3,546,553			US-PATENT-3,406,336			US-PATENT-CLASS-60-202
N71-24806*	c 09	NASA-CASE-NPO-10198	N71-24864*	c 14	NASA-CASE-XLE-04503			US-PATENT-3,545,208
		US-PATENT-APPL-SN-723804			US-PATENT-APPL-SN-606463	N71-25351*	c 33	NASA-CASE-MFS-14023
		US-PATENT-CLASS-328-165			US-PATENT-CLASS-250-225			US-PATENT-APPL-SN-795217
		US-PATENT-3,550,023			US-PATENT-3,546,471			US-PATENT-CLASS-161-161
N71-24807*	c 09	NASA-CASE-MFS-14114-2	N71-24865*	c 15	NASA-CASE-XMF-05114-3			US-PATENT-CLASS-220-9
		US-PATENT-APPL-SN-854815			US-PATENT-APPL-SN-837378			US-PATENT-CLASS-52-249
		US-PATENT-CLASS-165-105			US-PATENT-CLASS-72-56			US-PATENT-CLASS-52-404
		US-PATENT-CLASS-165-107			US-PATENT-3,540,250			US-PATENT-CLASS-62-45
		US-PATENT-CLASS-165-138	N71-24868*	c 23	NASA-CASE-ERC-10001			US-PATENT-3,540,615
		US-PATENT-CLASS-310-4			US-PATENT-APPL-SN-712099	N71-25353*	c 33	NASA-CASE-MFS-20355
		US-PATENT-3,537,515			US-PATENT-CLASS-350-310			US-PATENT-APPL-SN-845974
N71-24808*	c 09	NASA-CASE-XNP-08880			US-PATENT-3,540,802			US-PATENT-CLASS-165-104
		US-PATENT-APPL-SN-605094	N71-24875*	c 15	NASA-CASE-XLA-06199			US-PATENT-CLASS-165-105
		US-PATENT-CLASS-333-98			US-PATENT-APPL-SN-702911			US-PATENT-CLASS-165-133
		US-PATENT-3,416,106			US-PATENT-CLASS-148-6.11			US-PATENT-CLASS-219-378
N71-24809*	c 14	NASA-CASE-XNP-08961			US-PATENT-3,540,942			US-PATENT-CLASS-219-530
		US-PATENT-APPL-SN-661170	N71-24876*	c 33	NASA-CASE-XNP-05524			US-PATENT-CLASS-244-1
		US-PATENT-CLASS-250-84			US-PATENT-APPL-SN-250567			US-PATENT-3,548,930
		US-PATENT-3,487,216			US-PATENT-CLASS-165-2	N71-25360*	c 32	NASA-CASE-XLA-08530
N71-24813*	c 31	NASA-CASE-XAC-06029-1			US-PATENT-3,270,802			US-PATENT-APPL-SN-808577
		US-PATENT-APPL-SN-588651	N71-24890*	c 08	NASA-CASE-XKS-06167			US-PATENT-CLASS-73-90
		US-PATENT-CLASS-343-100			US-PATENT-APPL-SN-649076			US-PATENT-3,546,931
		US-PATENT-3,540,048			US-PATENT-CLASS-235-155	N71-25434*	c 31	NASA-CASE-MS-13047-1
N71-24826*	c 16	NASA-CASE-XAC-10770-1			US-PATENT-3,535,497			US-PATENT-APPL-SN-850586
		US-PATENT-APPL-SN-690997	N71-24891*	c 08	NASA-CASE-XNP-09759			US-PATENT-CLASS-244-1
		US-PATENT-CLASS-356-28			US-PATENT-APPL-SN-606462			US-PATENT-CLASS-244-113
		US-PATENT-3,547,540			US-PATENT-CLASS-235-92			US-PATENT-CLASS-244-138
N71-24830*	c 17	NASA-CASE-XNP-04148			US-PATENT-3,541,312			US-PATENT-3,547,376
		US-PATENT-APPL-SN-536210	N71-24892*	c 09	NASA-CASE-NPO-10716	N71-25490*	c 26	NASA-CASE-ERC-10088
		US-PATENT-CLASS-204-38			US-PATENT-APPL-SN-851394			US-PATENT-APPL-SN-760927
		US-PATENT-3,472,742			US-PATENT-CLASS-307-104			US-PATENT-CLASS-73-141
N71-24831*	c 16	NASA-CASE-NPO-10548			US-PATENT-CLASS-317-123			US-PATENT-3,537,305
		US-PATENT-APPL-SN-775072			US-PATENT-CLASS-317-148.5	N71-25555*	c 24	NASA-CASE-XNP-09469
		US-PATENT-CLASS-330-4			US-PATENT-3,549,955			US-PATENT-APPL-SN-645573
		US-PATENT-3,486,123	N71-24893*	c 09	NASA-CASE-ERC-10125			US-PATENT-CLASS-204-168
N71-24832*	c 16	NASA-CASE-ERC-10178			US-PATENT-APPL-SN-773029			US-PATENT-3,540,989
		US-PATENT-APPL-SN-800973			US-PATENT-CLASS-323-56	N71-25865*	c 10	NASA-CASE-KSC-10002
		US-PATENT-CLASS-331-94.5			US-PATENT-3,541,428			US-PATENT-APPL-SN-782956
		US-PATENT-3,550,034	N71-24895*	c 15	NASA-CASE-XLA-07473			US-PATENT-CLASS-178-69.5
N71-24833*	c 15	NASA-CASE-XMF-03793			US-PATENT-APPL-SN-839935			US-PATENT-3,567,861
		US-PATENT-APPL-SN-453225			US-PATENT-CLASS-318-265	N71-25866*	c 09	NASA-CASE-ARC-10003-1
		US-PATENT-CLASS-72-56			US-PATENT-3,546,552			US-PATENT-APPL-SN-717822
		US-PATENT-3,360,972	N71-24896*	c 15	NASA-CASE-ERC-10034			US-PATENT-CLASS-178-66
N71-24834*	c 15	NASA-CASE-XNP-05634			US-PATENT-APPL-SN-763706			US-PATENT-CLASS-179-100.2
		US-PATENT-APPL-SN-605096			US-PATENT-CLASS-250-43.5			US-PATENT-3,549,799
		US-PATENT-CLASS-73-95			US-PATENT-3,549,882	N71-25881*	c 18	NASA-CASE-XGS-05180
		US-PATENT-3,460,379			NASA-CASE-XLA-03538			US-PATENT-APPL-SN-721607
N71-24835*	c 15	NASA-CASE-NPO-10123			US-PATENT-APPL-SN-749149			US-PATENT-CLASS-260-37
		US-PATENT-APPL-SN-731388			US-PATENT-CLASS-294-83			US-PATENT-3,567,677
		US-PATENT-CLASS-128-272			US-PATENT-3,508,779	N71-25882*	c 10	NASA-CASE-GSC-10022-1
		US-PATENT-CLASS-128-275			NASA-CASE-MFS-20395			US-PATENT-APPL-SN-785546
		US-PATENT-3,540,449	N71-24903*	c 15	US-PATENT-APPL-SN-830715			US-PATENT-CLASS-331-113
N71-24836*	c 15	NASA-CASE-XLE-08917-2			US-PATENT-CLASS-285-314			US-PATENT-3,559,096
		US-PATENT-APPL-SN-852131			US-PATENT-CLASS-285-317	N71-25892*	c 14	NASA-CASE-XLA-04555-1
		US-PATENT-CLASS-72-60			US-PATENT-CLASS-285-38			US-PATENT-APPL-SN-594584
		US-PATENT-3,541,825			US-PATENT-CLASS-285-406			US-PATENT-CLASS-148-13
N71-24840*	c 07	NASA-CASE-NPO-10649			US-PATENT-3,545,792			US-PATENT-3,468,727
		US-PATENT-APPL-SN-795182	N71-24904*	c 09	NASA-CASE-MFS-20385	N71-25899*	c 10	NASA-CASE-LEW-10345-1
		US-PATENT-CLASS-325-113			US-PATENT-APPL-SN-853716			US-PATENT-APPL-SN-805298
		US-PATENT-3,541,450			US-PATENT-CLASS-310-10			US-PATENT-CLASS-137-81.5
N71-24841*	c 09	NASA-CASE-XNP-09771			US-PATENT-3,541,361			US-PATENT-CLASS-235-201



N71-25900*	c 10	US-PATENT-3,568,702 NASA-CASE-ERC-10032 US-PATENT-APPL-SN-757857 US-PATENT-CLASS-333-30 US-PATENT-CLASS-333-72 US-PATENT-3,568,103	N71-26136*	c 14	US-PATENT-3,564,401 NASA-CASE-XLA-01782 US-PATENT-APPL-SN-576792 US-PATENT-CLASS-73-15.6 US-PATENT-3,472,060	N71-26293*	c 05	US-PATENT-APPL-SN-719870 US-PATENT-CLASS-325-67 US-PATENT-3,553,586 NASA-CASE-XFR-07658-1 US-PATENT-APPL-SN-586324 US-PATENT-CLASS-128-2.06 US-PATENT-3,426,746
N71-25901*	c 14	NASA-CASE-XLA-02810 US-PATENT-APPL-SN-764252 US-PATENT-CLASS-250-43.5 US-PATENT-CLASS-250-83.3 US-PATENT-CLASS-340-233 US-PATENT-CLASS-340-285 US-PATENT-3,569,710	N71-26137*	c 14	NASA-CASE-LAR-10305 US-PATENT-APPL-SN-811037 US-PATENT-CLASS-324-0.5 US-PATENT-CLASS-324-58.5 US-PATENT-3,562,631	N71-26294*	c 15	NASA-CASE-XNP-02862-1 US-PATENT-APPL-SN-556830 US-PATENT-CLASS-277-13 US-PATENT-3,468,548
N71-25903*	c 17	NASA-CASE-XLA-08966-1 US-PATENT-APPL-SN-570678 US-PATENT-CLASS-204-33 US-PATENT-3,468,765	N71-26142*	c 10	NASA-CASE-NPO-10302 US-PATENT-APPL-SN-848811 US-PATENT-CLASS-343-768 US-PATENT-3,553,704	N71-26312*	c 15	NASA-CASE-XNP-01263-2 US-PATENT-APPL-SN-718279 US-PATENT-CLASS-287-189.365 US-PATENT-3,481,638
N71-25914*	c 16	NASA-CASE-XLA-03410 US-PATENT-APPL-SN-512561 US-PATENT-CLASS-250-199 US-PATENT-3,469,087	N71-26145*	c 15	NASA-CASE-FRC-10005 US-PATENT-APPL-SN-756266 US-PATENT-CLASS-33-189 US-PATENT-3,562,919	N71-26326*	c 10	NASA-CASE-NPO-10143 US-PATENT-APPL-SN-692331 US-PATENT-CLASS-58-24 US-PATENT-3,472,019
N71-25917*	c 10	NASA-CASE-NPO-10595 US-PATENT-APPL-SN-771760 US-PATENT-CLASS-340-347 US-PATENT-3,569,956	N71-26148*	c 15	NASA-CASE-XMF-05114-2 US-PATENT-APPL-SN-837377 US-PATENT-CLASS-72-56 US-PATENT-3,555,867	N71-26331*	c 10	NASA-CASE-XNP-10854 US-PATENT-APPL-SN-668248 US-PATENT-CLASS-330-31 US-PATENT-3,482,179
N71-25929*	c 06	NASA-CASE-NPO-10596 US-PATENT-APPL-SN-756381 US-PATENT-CLASS-260-2.5 US-PATENT-3,557,027	N71-26153*	c 18	NASA-CASE-XLE-03940 US-PATENT-APPL-SN-539255 US-PATENT-CLASS-148-126 US-PATENT-3,472,709	N71-26333*	c 05	NASA-CASE-XMS-09652-1 US-PATENT-APPL-SN-618969 US-PATENT-CLASS-2-6 US-PATENT-3,473,165
N71-25950*	c 10	NASA-CASE-XGS-06226 US-PATENT-APPL-SN-876387 US-PATENT-CLASS-331-113 US-PATENT-3,466,570	N71-26154*	c 16	NASA-CASE-ERC-10020 US-PATENT-APPL-SN-709399 US-PATENT-CLASS-350-3.5 US-PATENT-3,540,790	N71-26334*	c 10	NASA-CASE-XLA-02619 US-PATENT-APPL-SN-796691 US-PATENT-CLASS-317-DIG.3 US-PATENT-CLASS-317-153 US-PATENT-CLASS-340-235 US-PATENT-3,575,641
N71-25975*	c 15	NASA-CASE-XMS-10660-1 US-PATENT-APPL-SN-797056 US-PATENT-CLASS-24-205.17 US-PATENT-3,469,289	N71-26155*	c 18	NASA-CASE-LAR-10373-1 US-PATENT-APPL-SN-761007 US-PATENT-CLASS-260-2.5 US-PATENT-3,481,887	N71-26339*	c 10	NASA-CASE-NPO-10185 US-PATENT-APPL-SN-723805 US-PATENT-CLASS-73-432 US-PATENT-3,472,080
N71-25999*	c 09	NASA-CASE-XGS-05290 US-PATENT-APPL-SN-754019 US-PATENT-CLASS-310-168 US-PATENT-CLASS-310-254 US-PATENT-CLASS-318-138 US-PATENT-CLASS-318-254 US-PATENT-3,569,804	N71-26161*	c 14	NASA-CASE-XLA-08254 US-PATENT-APPL-SN-867843 US-PATENT-CLASS-73-12 US-PATENT-CLASS-73-79 US-PATENT-3,576,127	N71-26346*	c 15	NASA-CASE-XLE-05641-1 US-PATENT-APPL-SN-605091 US-PATENT-CLASS-72-61 US-PATENT-3,461,700
N71-26000*	c 09	NASA-CASE-XNP-08567 US-PATENT-APPL-SN-640783 US-PATENT-CLASS-307-88 US-PATENT-3,466,459	N71-26162*	c 15	NASA-CASE-MSC-15474-1 US-PATENT-APPL-SN-878731 US-PATENT-CLASS-24-263 US-PATENT-3,564,564	N71-26374*	c 10	NASA-CASE-GSC-11367 US-PATENT-APPL-SN-675238 US-PATENT-CLASS-331-18 US-PATENT-3,484,712
N71-26002*	c 09	NASA-CASE-XMS-04213-1 US-PATENT-APPL-SN-607484 US-PATENT-CLASS-128-2.1 US-PATENT-3,468,303	N71-26173*	c 28	NASA-CASE-LEW-10689-1 US-PATENT-APPL-SN-830978 US-PATENT-CLASS-60-202 US-PATENT-3,552,125	N71-26387*	c 12	NASA-CASE-XLA-05541 US-PATENT-APPL-SN-700986 US-PATENT-CLASS-73-301 US-PATENT-3,473,379
N71-26084*	c 03	NASA-CASE-LEW-11358 US-PATENT-APPL-SN-787906 US-PATENT-CLASS-136-6 US-PATENT-3,554,806	N71-26181*	c 07	NASA-CASE-MSC-12223-1 US-PATENT-APPL-SN-839941 US-PATENT-CLASS-179-1 US-PATENT-3,555,192	N71-26414*	c 10	NASA-CASE-XMF-04958-1 US-PATENT-APPL-SN-448365 US-PATENT-CLASS-321-69 US-PATENT-3,434,037
N71-26085*	c 10	NASA-CASE-GSC-10735-1 US-PATENT-APPL-SN-863963 US-PATENT-CLASS-321-2 US-PATENT-3,559,031	N71-26182*	c 09	NASA-CASE-NPO-10625 US-PATENT-APPL-SN-856415 US-PATENT-CLASS-313-236 US-PATENT-CLASS-313-237 US-PATENT-CLASS-60-23 US-PATENT-3,562,575	N71-26415*	c 10	NASA-CASE-NPO-10003 US-PATENT-APPL-SN-638192 US-PATENT-CLASS-330-13 US-PATENT-3,461,393
N71-26092*	c 09	NASA-CASE-XNP-07477 US-PATENT-APPL-SN-605098 US-PATENT-CLASS-318-258 US-PATENT-3,501,684	N71-26185*	c 15	NASA-CASE-MFS-14711 US-PATENT-APPL-SN-774266 US-PATENT-CLASS-55-75 US-PATENT-3,557,534	N71-26418*	c 10	NASA-CASE-XGS-04224 US-PATENT-APPL-SN-568364 US-PATENT-CLASS-340-174 US-PATENT-3,483,535
N71-26100*	c 18	NASA-CASE-XLA-04251 US-PATENT-APPL-SN-857742 US-PATENT-CLASS-117-104 US-PATENT-3,553,002	N71-26189*	c 15	NASA-CASE-XLE-09527-2 US-PATENT-APPL-SN-840870 US-PATENT-CLASS-308-187 US-PATENT-3,561,828	N71-26434*	c 10	NASA-CASE-XNP-01466 US-PATENT-APPL-SN-487940 US-PATENT-CLASS-340-174 US-PATENT-3,461,437
N71-26101*	c 07	NASA-CASE-NPO-10231 US-PATENT-APPL-SN-701767 US-PATENT-CLASS-343-786 US-PATENT-3,534,376	N71-26199*	c 14	NASA-CASE-NPO-10691 US-PATENT-APPL-SN-816988 US-PATENT-CLASS-73-61 US-PATENT-3,566,676	N71-26474*	c 14	NASA-CASE-XMF-03844-1 US-PATENT-APPL-SN-601229 US-PATENT-CLASS-95-44 US-PATENT-3,472,140
N71-26102*	c 07	NASA-CASE-XNP-06611 US-PATENT-APPL-SN-593607 US-PATENT-CLASS-178-6.6 US-PATENT-3,474,192	N71-26206*	c 23	NASA-CASE-XGS-08269 US-PATENT-APPL-SN-787393 US-PATENT-CLASS-356-76 US-PATENT-3,554,647	N71-26475*	c 14	NASA-CASE-XNP-09701 US-PATENT-APPL-SN-584015 US-PATENT-CLASS-250-83.3 US-PATENT-3,461,290
N71-26103*	c 10	NASA-CASE-XNP-04623 US-PATENT-APPL-SN-510150 US-PATENT-CLASS-340-146.1 US-PATENT-3,474,413	N71-26243*	c 15	NASA-CASE-MSC-10959 US-PATENT-APPL-SN-725719 US-PATENT-CLASS-188-1 US-PATENT-3,420,338	N71-26531*	c 10	NASA-CASE-GSC-10413 US-PATENT-APPL-SN-789043 US-PATENT-CLASS-317-20 US-PATENT-CLASS-317-33 US-PATENT-3,555,361
N71-26110*	c 02	NASA-CASE-LAR-10249-1 US-PATENT-APPL-SN-835060 US-PATENT-CLASS-244-42 US-PATENT-3,576,301	N71-26244*	c 14	NASA-CASE-XMS-06497 US-PATENT-APPL-SN-617778 US-PATENT-CLASS-324-115 US-PATENT-3,464,012	N71-26537*	c 31	NASA-CASE-GSC-10556-1 NASA-CASE-GSC-10557-1 US-PATENT-APPL-SN-808193 US-PATENT-CLASS-244-1 US-PATENT-CLASS-308-1 US-PATENT-CLASS-74-5.12 US-PATENT-3,554,466
N71-26133*	c 09	NASA-CASE-MFS-20075 US-PATENT-APPL-SN-835059 US-PATENT-CLASS-317-101 US-PATENT-CLASS-339-17 US-PATENT-3,575,636	N71-26266*	c 14	NASA-CASE-XNP-09830 US-PATENT-APPL-SN-632165 US-PATENT-CLASS-324-0.5 US-PATENT-3,474,328	N71-26544*	c 10	NASA-CASE-NPO-10344 US-PATENT-APPL-SN-732921 US-PATENT-CLASS-340-347 US-PATENT-3,556,206
N71-26134*	c 15	NASA-CASE-XKS-07953 US-PATENT-APPL-SN-725405 US-PATENT-CLASS-51-170 US-PATENT-3,553,904	N71-26285*	c 18	NASA-CASE-MSC-12109 US-PATENT-APPL-SN-889376 US-PATENT-CLASS-112-402 US-PATENT-CLASS-2-275 US-PATENT-CLASS-2-81 US-PATENT-3,563,198	N71-26546*	c 12	NASA-CASE-FRC-10022 US-PATENT-APPL-SN-763729 US-PATENT-CLASS-73-194 US-PATENT-3,555,898
N71-26135*	c 14	NASA-CASE-XAC-03740 US-PATENT-APPL-SN-480211 US-PATENT-CLASS-324-43	N71-26291*	c 07	NASA-CASE-HQN-10541-1 US-PATENT-APPL-SN-494739 US-PATENT-CLASS-350-96 US-PATENT-3,556,634	N71-26577*	c 10	NASA-CASE-NPO-10214 US-PATENT-APPL-SN-704299 US-PATENT-CLASS-325-41
			N71-26292*	c 07	NASA-CASE-XKS-10543			

N71-26579*	c 07	US-PATENT-3,566,268	N71-26787*	c 09	US-PATENT-APPL-SN-804172	N71-27094*	c 28	NASA-CASE-GSC-10710-1
		NASA-CASE-XMS-06740-1			US-PATENT-CLASS-313-63			US-PATENT-APPL-SN-828909
		US-PATENT-APPL-SN-554277			US-PATENT-CLASS-315-111			US-PATENT-CLASS-73-117.4
		US-PATENT-CLASS-178-6			US-PATENT-CLASS-60-202			US-PATENT-3,572,104
N71-26611*	c 15	US-PATENT-3,470,313	N71-26788*	c 14	US-PATENT-3,576,107	N71-27095*	c 28	NASA-CASE-MFS-20325
		NASA-CASE-MSC-11817-1			NASA-CASE-XKS-05932			US-PATENT-APPL-SN-840176
		US-PATENT-APPL-SN-7668			US-PATENT-APPL-SN-752729			US-PATENT-CLASS-244-1
		US-PATENT-CLASS-165-44			US-PATENT-CLASS-240-11.2			US-PATENT-3,572,610
N71-26626*	c 10	US-PATENT-CLASS-165-86	N71-27001*	c 09	US-PATENT-CLASS-240-11.4	N71-27126*	c 10	NASA-CASE-LEW-10233
		US-PATENT-CLASS-188-88			US-PATENT-CLASS-240-51.11			US-PATENT-APPL-SN-750787
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-313-22			US-PATENT-CLASS-307-253
		US-PATENT-CLASS-244-57			US-PATENT-3,564,234			US-PATENT-CLASS-307-300
N71-26627*	c 14	US-PATENT-3,563,307	N71-27005*	c 14	NASA-CASE-MFS-20240	N71-27135*	c 15	US-PATENT-3,566,158
		NASA-CASE-GSC-10891-1			US-PATENT-APPL-SN-825259			NASA-CASE-HQN-10541-2
		US-PATENT-APPL-SN-568620			US-PATENT-CLASS-356-203			US-PATENT-APPL-SN-822088
		US-PATENT-CLASS-307-53			US-PATENT-3,563,668			US-PATENT-CLASS-219-121
N71-26635*	c 15	US-PATENT-3,480,789	N71-27016*	c 09	NASA-CASE-XGS-11177	N71-27136*	c 10	US-PATENT-CLASS-331-94.5
		NASA-CASE-MFS-14017			US-PATENT-APPL-SN-828921			US-PATENT-3,571,555
		US-PATENT-APPL-SN-762956			US-PATENT-CLASS-317-33			NASA-CASE-GSC-10065-1
		US-PATENT-CLASS-248-183			US-PATENT-CLASS-317-9			US-PATENT-APPL-SN-808462
N71-26642*	c 28	US-PATENT-CLASS-308-9	N71-27017*	c 14	US-PATENT-3,571,656	N71-27146*	c 15	US-PATENT-CLASS-318-571
		US-PATENT-3,559,937			NASA-CASE-MFS-20261			US-PATENT-CLASS-318-653
		NASA-CASE-ERC-10022			US-PATENT-APPL-SN-845990			US-PATENT-3,568,028
		US-PATENT-APPL-SN-874733			US-PATENT-CLASS-1			NASA-CASE-XNP-06234
N71-26643*	c 28	US-PATENT-CLASS-74-424.8	N71-27006*	c 15	US-PATENT-CLASS-141-258	N71-27147*	c 15	NASA-CASE-MSC-12121-1
		US-PATENT-CLASS-74-89.15			US-PATENT-CLASS-222-137			US-PATENT-APPL-SN-783374
		US-PATENT-3,576,135			US-PATENT-CLASS-222-49			US-PATENT-CLASS-91-390
		NASA-CASE-LEW-10106-1			US-PATENT-3,568,885			US-PATENT-CLASS-91-461
N71-26654*	c 23	US-PATENT-APPL-SN-758390	N71-27036*	c 11	US-PATENT-CLASS-328-120	N71-27169*	c 15	US-PATENT-3,563,135
		US-PATENT-CLASS-60-202			US-PATENT-CLASS-330-30			NASA-CASE-LAR-10106-1
		US-PATENT-3,552,124			US-PATENT-3,569,744			US-PATENT-APPL-SN-810575
		NASA-CASE-NPO-10467			NASA-CASE-XNP-09770-3			US-PATENT-CLASS-188-1
N71-26672*	c 14	US-PATENT-CLASS-62-514	N71-27053*	c 09	US-PATENT-APPL-SN-863967	N71-27170*	c 18	US-PATENT-CLASS-310-51
		US-PATENT-3,564,866			US-PATENT-CLASS-74-18.2			US-PATENT-3,566,993
		NASA-CASE-ERC-10033			US-PATENT-3,574,286			NASA-CASE-XMF-02221
		US-PATENT-APPL-SN-801660			US-PATENT-CLASS-357,286			US-PATENT-APPL-SN-430192
N71-26673*	c 15	US-PATENT-CLASS-73-49.3	N71-27054*	c 09	US-PATENT-APPL-SN-865811	N71-27183*	c 16	US-PATENT-CLASS-252-301.2
		US-PATENT-3,559,460			US-PATENT-CLASS-323-48			US-PATENT-3,567,651
		NASA-CASE-XAC-09489-1			US-PATENT-CLASS-323-60			NASA-CASE-HQN-10541-4
		US-PATENT-APPL-SN-694246			US-PATENT-3,571,699			US-PATENT-APPL-SN-822090
N71-26674*	c 19	US-PATENT-CLASS-356-154	N71-27055*	c 11	US-PATENT-CLASS-323-60	N71-27184*	c 15	US-PATENT-CLASS-250-199
		US-PATENT-3,565,530			US-PATENT-3,571,699			US-PATENT-3,575,602
		NASA-CASE-XGS-04173			US-PATENT-CLASS-325-16			NASA-CASE-XNP-08124
		US-PATENT-APPL-SN-658964			US-PATENT-CLASS-325-23			US-PATENT-APPL-SN-697075
N71-26678*	c 09	US-PATENT-CLASS-350-285	N71-27056*	c 07	US-PATENT-CLASS-325-369	N71-27185*	c 14	US-PATENT-CLASS-75-63
		US-PATENT-3,560,081			US-PATENT-CLASS-343-100			US-PATENT-3,563,727
		NASA-CASE-ERC-10013			US-PATENT-CLASS-343-117			NASA-CASE-NPO-10556
		US-PATENT-APPL-SN-802972			US-PATENT-CLASS-343-176			US-PATENT-APPL-SN-796405
N71-26681*	c 32	US-PATENT-CLASS-29-25.18	N71-27057*	c 08	US-PATENT-3,568,197	N71-27186*	c 14	US-PATENT-CLASS-73-71.6
		US-PATENT-3,562,881			NASA-CASE-XLA-07828			US-PATENT-3,572,089
		NASA-CASE-LAR-10098			US-PATENT-APPL-SN-770209			NASA-CASE-XMF-03968
		US-PATENT-APPL-SN-677475			US-PATENT-CLASS-318-20.105			US-PATENT-APPL-SN-719029
N71-26701*	c 09	US-PATENT-CLASS-73-71.4	N71-27058*	c 14	US-PATENT-CLASS-325-151.11	N71-27191*	c 07	US-PATENT-CLASS-174-110.3
		US-PATENT-3,564,906			US-PATENT-CLASS-340-347DA			US-PATENT-CLASS-324-65
		NASA-CASE-NPO-10331			US-PATENT-3,573,797			US-PATENT-CLASS-340-227
		US-PATENT-APPL-SN-757625			NASA-CASE-MSC-13276-1			US-PATENT-CLASS-60-35.6
N71-26721*	c 15	US-PATENT-CLASS-118-49.5	N71-27059*	c 14	US-PATENT-APPL-SN-880272	N71-27210*	c 08	US-PATENT-3,569,828
		US-PATENT-CLASS-204-298			US-PATENT-CLASS-219-505			NASA-CASE-MFS-20068
		US-PATENT-3,556,048			US-PATENT-3,575,585			US-PATENT-APPL-SN-797795
		NASA-CASE-LAR-10121-1			NASA-CASE-XKS-07814			US-PATENT-CLASS-174-28
N71-26722*	c 23	US-PATENT-APPL-SN-766244	N71-27067*	c 15	US-PATENT-APPL-SN-672384	N71-27211*	c 08	US-PATENT-CLASS-333-95
		US-PATENT-CLASS-18-6			US-PATENT-CLASS-182-10			US-PATENT-CLASS-333-96
		US-PATENT-3,562,857			US-PATENT-CLASS-188-65.5			US-PATENT-CLASS-343-884
		NASA-CASE-GSC-10216-1			US-PATENT-3,568,795			US-PATENT-3,569,875
N71-26726*	c 03	US-PATENT-APPL-SN-756260	N71-27068*	c 15	US-PATENT-CLASS-318-20.105	N71-27212*	c 08	NASA-CASE-GSC-10097-1
		US-PATENT-CLASS-331-94.5			US-PATENT-APPL-SN-815760			US-PATENT-APPL-SN-762957
		US-PATENT-3,555,455			US-PATENT-CLASS-220-46			US-PATENT-CLASS-179-100.2
		NASA-CASE-XNP-03413			US-PATENT-3,568,874			US-PATENT-CLASS-29-603
N71-26754*	c 06	US-PATENT-APPL-SN-640456	N71-27084*	c 15	US-PATENT-CLASS-240-90	N71-27213*	c 08	US-PATENT-CLASS-340-174.1
		US-PATENT-CLASS-156-212			US-PATENT-CLASS-244-90			US-PATENT-3,566,045
		US-PATENT-3,565,719			US-PATENT-CLASS-417-50			NASA-CASE-XLA-08911
		NASA-CASE-XNP-09451			US-PATENT-3,567,339			US-PATENT-APPL-SN-777676
N71-26772*	c 18	US-PATENT-APPL-SN-713162	N71-27088*	c 02	NASA-CASE-XLA-08967	N71-27214*	c 15	US-PATENT-CLASS-219-22855
		US-PATENT-CLASS-23-253			US-PATENT-APPL-SN-837830			US-PATENT-CLASS-228-5
		US-PATENT-3,560,161			US-PATENT-CLASS-244-90			US-PATENT-3,575,339
		NASA-CASE-XMF-07770-2			US-PATENT-CLASS-244-90			NASA-CASE-LAR-10204-1
N71-26773*	c 17	US-PATENT-APPL-SN-711903	N71-27090*	c 14	US-PATENT-3,570,789	N71-27215*	c 14	US-PATENT-APPL-SN-766244
		US-PATENT-CLASS-106-296			NASA-CASE-ERC-10044-1			US-PATENT-CLASS-235-6
		US-PATENT-3,576,656			US-PATENT-APPL-SN-811892			US-PATENT-CLASS-356-10
		NASA-CASE-XNP-04262-2			US-PATENT-CLASS-250-43.5R			US-PATENT-CLASS-356-10
N71-26774*	c 14	US-PATENT-APPL-SN-684894	N71-27091*	c 15	US-PATENT-CLASS-324-33	N71-27232*	c 09	US-PATENT-APPL-SN-79935
		US-PATENT-CLASS-75-66			US-PATENT-3,575,597			US-PATENT-CLASS-250-6
		US-PATENT-3,565,607			NASA-CASE-MFS-13929			US-PATENT-CLASS-317-23
		NASA-CASE-ERC-11020			US-PATENT-APPL-SN-779847			US-PATENT-CLASS-317-23
N71-26779*	c 28	US-PATENT-CLASS-86-20.2	N71-27091*	c 15	US-PATENT-CLASS-152-225	N71-27232*	c 09	US-PATENT-CLASS-317-23
		US-PATENT-3,570,364			US-PATENT-CLASS-152-250			US-PATENT-CLASS-317-23
		NASA-CASE-LEW-10210-1			US-PATENT-3,568,748			US-PATENT-CLASS-317-23

N71-27233*	c 07	NASA-CASE-GSC-10220-1 US-PATENT-APPL-SN-759256 US-PATENT-CLASS-343-777 US-PATENT-CLASS-343-786 US-PATENT-CLASS-343-799 US-PATENT-CLASS-343-840 US-PATENT-CLASS-343-854 US-PATENT-3,569,976	US-PATENT-CLASS-324-61 US-PATENT-3,569,827	US-PATENT-APPL-SN-723488 US-PATENT-CLASS-204-30 US-PATENT-3,576,723
N71-27234*	c 05	NASA-CASE-XFR-07172 US-PATENT-APPL-SN-720041 US-PATENT-CLASS-128-2.05 US-PATENT-3,563,232	N71-27407* c 14 NASA-CASE-GSC-10376-1 US-PATENT-APPL-SN-806226 US-PATENT-CLASS-307-126 US-PATENT-CLASS-323-20 US-PATENT-3,566,143	N71-28729* c 18 NASA-CASE-LEW-10219-1 US-PATENT-APPL-SN-785780 US-PATENT-CLASS-148-126 US-PATENT-3,579,390
N71-27254*	c 06	NASA-CASE-NPO-10768 US-PATENT-APPL-SN-770398 US-PATENT-CLASS-260-615 US-PATENT-3,574,770	N71-27432* c 15 NASA-CASE-NPO-10808 US-PATENT-APPL-SN-808192 US-PATENT-CLASS-60-243 US-PATENT-3,568,447	N71-28739* c 10 NASA-CASE-XNP-010688 US-PATENT-APPL-SN-375680 US-PATENT-CLASS-307-88.5 US-PATENT-3,271,594
N71-27255*	c 08	NASA-CASE-NPO-12107 US-PATENT-APPL-SN-555189 US-PATENT-CLASS-179-100.2 US-PATENT-CLASS-340-146.1 US-PATENT-CLASS-340-172.5 US-PATENT-3,571,801	N71-27585* c 28 NASA-CASE-MFS-20130 US-PATENT-APPL-SN-809822 US-PATENT-CLASS-244-4 US-PATENT-3,570,785	N71-28740* c 15 NASA-CASE-XLA-09346 US-PATENT-APPL-SN-820964 US-PATENT-CLASS-356-150 US-PATENT-CLASS-356-152 US-PATENT-CLASS-356-153 US-PATENT-CLASS-73-147 US-PATENT-3,583,815
N71-27271*	c 10	NASA-CASE-XLA-03893 US-PATENT-APPL-SN-779024 US-PATENT-CLASS-331-109 US-PATENT-CLASS-331-117 US-PATENT-CLASS-331-177 US-PATENT-CLASS-332-30 US-PATENT-3,569,866	N71-27754* c 15 NASA-CASE-ARC-10131-1 US-PATENT-APPL-SN-808576 US-PATENT-CLASS-60-51 US-PATENT-CLASS-91-361 US-PATENT-CLASS-91-390 US-PATENT-CLASS-91-448 US-PATENT-3,568,572	N71-28741* c 12 NASA-CASE-XLE-09341 US-PATENT-APPL-SN-780065 US-PATENT-CLASS-137-81.5 US-PATENT-3,583,419
N71-27272*	c 10	NASA-CASE-XLA-08799 US-PATENT-APPL-SN-668242 US-PATENT-CLASS-340-150 US-PATENT-CLASS-340-164 US-PATENT-CLASS-340-166 US-PATENT-CLASS-340-213 US-PATENT-CLASS-340-403 US-PATENT-3,571,800	N71-27862* c 33 NASA-CASE-MFS-14114 US-PATENT-APPL-SN-706013 US-PATENT-CLASS-310-4 US-PATENT-3,535,562	N71-28747* c 17 NASA-CASE-XNP-08881 US-PATENT-APPL-SN-732922 US-PATENT-CLASS-161-89 US-PATENT-3,579,412
N71-27323*	c 14	NASA-CASE-NPO-10810 US-PATENT-APPL-SN-805405 US-PATENT-CLASS-250-83.3 US-PATENT-CLASS-73-355 US-PATENT-3,566,122	N71-28421* c 09 NASA-CASE-NPO-10412 US-PATENT-APPL-SN-768470 US-PATENT-CLASS-310-4 US-PATENT-3,578,992	N71-28759* c 22 NASA-CASE-LEW-10250-1 US-PATENT-APPL-SN-732455 US-PATENT-CLASS-176-45 US-PATENT-3,574,057
N71-27324*	c 21	NASA-CASE-GSC-10555-1 US-PATENT-APPL-SN-785620 US-PATENT-CLASS-244-1 US-PATENT-3,567,155	N71-28429* c 07 NASA-CASE-MSC-13201-1 US-PATENT-APPL-SN-799903 US-PATENT-CLASS-332-29 US-PATENT-CLASS-332-30 US-PATENT-3,579,147	N71-28779* c 11 NASA-CASE-XNP-002490 US-PATENT-APPL-SN-212597 US-PATENT-CLASS-181-5 US-PATENT-3,260,326
N71-27325*	c 14	NASA-CASE-GSC-10441-1 US-PATENT-APPL-SN-782544 US-PATENT-CLASS-324-43 US-PATENT-3,571,700	N71-28430* c 07 NASA-CASE-GSC-10668-1 US-PATENT-APPL-SN-743525 US-PATENT-CLASS-307-296 US-PATENT-CLASS-325-185 US-PATENT-CLASS-330-124 US-PATENT-CLASS-330-200 US-PATENT-CLASS-330-40 US-PATENT-3,577,092	N71-28783* c 10 NASA-CASE-XMS-02182 US-PATENT-APPL-SN-516153 US-PATENT-CLASS-317-100 US-PATENT-3,317,797
N71-27332*	c 12	NASA-CASE-NPO-10416 US-PATENT-APPL-SN-754020 US-PATENT-CLASS-137-81.5 US-PATENT-3,570,513	N71-28465* c 15 NASA-CASE-ERC-10097 US-PATENT-APPL-SN-797059 US-PATENT-CLASS-308-170 US-PATENT-3,583,777	N71-28807* c 06 NASA-CASE-XMF-08674 US-PATENT-APPL-SN-617775 US-PATENT-CLASS-260-47 US-PATENT-3,370,039
N71-27334*	c 14	NASA-CASE-ERC-10087 US-PATENT-APPL-SN-738315 US-PATENT-CLASS-29-588 US-PATENT-3,566,459	N71-28467* c 15 NASA-CASE-NPO-10646 US-PATENT-APPL-SN-813488 US-PATENT-CLASS-64-18 US-PATENT-3,574,277	N71-28808* c 06 NASA-CASE-XNP-04023 US-PATENT-APPL-SN-470902 US-PATENT-CLASS-260-429 US-PATENT-3,396,184
N71-27338*	c 10	NASA-CASE-KSC-10020 US-PATENT-APPL-SN-817482 US-PATENT-CLASS-324-103 US-PATENT-CLASS-324-107 US-PATENT-CLASS-324-133 US-PATENT-CLASS-340-248 US-PATENT-3,571,707	N71-28468* c 09 NASA-CASE-ARC-10137-1 US-PATENT-APPL-SN-799013 US-PATENT-CLASS-307-265 US-PATENT-CLASS-307-273 US-PATENT-CLASS-307-288 US-PATENT-CLASS-328-207 US-PATENT-3,584,311	N71-28809* c 07 NASA-CASE-XGS-02290 US-PATENT-APPL-SN-544895 US-PATENT-CLASS-343-771 US-PATENT-3,417,400
N71-27341*	c 07	NASA-CASE-NPO-10343 US-PATENT-APPL-SN-750786 US-PATENT-CLASS-178-7.1 US-PATENT-CLASS-178-7.3 US-PATENT-3,566,027	N71-28554* c 16 NASA-CASE-XGS-10518 US-PATENT-APPL-SN-764470 US-PATENT-CLASS-335-216 US-PATENT-3,541,486	N71-28810* c 09 NASA-CASE-XNP-03916 US-PATENT-APPL-SN-535304 US-PATENT-CLASS-331-113 US-PATENT-3,325,749
N71-27363*	c 06	NASA-CASE-HQN-10364 US-PATENT-APPL-SN-713616 US-PATENT-CLASS-260-2 US-PATENT-3,563,918	N71-28579* c 03 NASA-CASE-LEW-11359 US-PATENT-APPL-SN-787911 US-PATENT-CLASS-136-83 US-PATENT-3,573,986	N71-28849* c 28 NASA-CASE-XMS-04826 US-PATENT-APPL-SN-521755 US-PATENT-CLASS-60-258 US-PATENT-3,318,096
N71-27364*	c 09	NASA-CASE-ERC-10065 US-PATENT-APPL-SN-777818 US-PATENT-CLASS-321-61 US-PATENT-CLASS-321-64 US-PATENT-CLASS-322-32 US-PATENT-3,571,693	N71-28582* c 15 NASA-CASE-LEW-10278-1 US-PATENT-APPL-SN-760928 US-PATENT-CLASS-117-224 US-PATENT-3,573,977	N71-28850* c 28 NASA-CASE-XNP-01951 US-PATENT-APPL-SN-372730 US-PATENT-CLASS-313-230 US-PATENT-3,328,624
N71-27365*	c 10	NASA-CASE-NPO-10251 US-PATENT-APPL-SN-774265 US-PATENT-CLASS-35-19 US-PATENT-3,570,143	N71-28618* c 09 NASA-CASE-ERC-10098 US-PATENT-APPL-SN-779169 US-PATENT-CLASS-178-5.2R US-PATENT-CLASS-178-54CF US-PATENT-CLASS-178-54PE US-PATENT-3,582,960	N71-28851* c 31 NASA-CASE-XMS-06162 US-PATENT-APPL-SN-610724 US-PATENT-CLASS-244-138 US-PATENT-3,330,510
N71-27366*	c 10	NASA-CASE-GSC-10114-1 US-PATENT-APPL-SN-796370 US-PATENT-CLASS-317-33 US-PATENT-CLASS-321-12 US-PATENT-3,571,662	N71-28619* c 05 NASA-CASE-ARC-10153 US-PATENT-APPL-SN-783377 US-PATENT-CLASS-104-1 US-PATENT-CLASS-104-139 US-PATENT-CLASS-119-96 US-PATENT-CLASS-238-1 US-PATENT-CLASS-248-361 US-PATENT-CLASS-272-70 US-PATENT-CLASS-35-29 US-PATENT-3,583,322	N71-28852* c 33 NASA-CASE-XNP-01310 US-PATENT-APPL-SN-379771 US-PATENT-CLASS-60-266 US-PATENT-3,279,193
N71-27372*	c 15	NASA-CASE-NPO-10070 US-PATENT-APPL-SN-780064 US-PATENT-CLASS-23-259 US-PATENT-3,565,584	N71-28620* c 06 NASA-CASE-NPO-10701 US-PATENT-APPL-SN-763355 US-PATENT-CLASS-260-47 US-PATENT-3,576,786	N71-28859* c 10 NASA-CASE-XNP-01107 US-PATENT-APPL-SN-384010 US-PATENT-CLASS-330-51 US-PATENT-3,389,346
N71-27397*	c 18	NASA-CASE-XNP-02500 US-PATENT-APPL-SN-508169 US-PATENT-CLASS-324-58.5	N71-28629* c 11 NASA-CASE-KSC-10198 US-PATENT-APPL-SN-845971 US-PATENT-CLASS-73-15 US-PATENT-CLASS-73-432 US-PATENT-3,578,756	N71-28860* c 10 NASA-CASE-MSC-13492-1 US-PATENT-APPL-SN-53156 US-PATENT-CLASS-307-215 US-PATENT-CLASS-307-265 US-PATENT-CLASS-307-273 US-PATENT-CLASS-328-207 US-PATENT-CLASS-328-92 US-PATENT-3,577,014
			N71-28691* c 09 NASA-CASE-MFS-13687	N71-28863* c 14 NASA-CASE-ERC-10014 US-PATENT-APPL-SN-815367 US-PATENT-CLASS-250-41.9 US-PATENT-CLASS-250-49.5 US-PATENT-3,567,927
				N71-28886* c 09 NASA-CASE-MFS-14610 US-PATENT-APPL-SN-885571 US-PATENT-CLASS-318-317 US-PATENT-CLASS-318-331 US-PATENT-CLASS-318-345 US-PATENT-CLASS-318-504 US-PATENT-3,573,583
				N71-28892* c 33 NASA-CASE-XMF-05046 US-PATENT-APPL-SN-559350

		US-PATENT-CLASS-62-45	N71-28994*	c 14	NASA-CASE-XER-11203	N71-29129*	c 03	NASA-CASE-XGS-01674
		US-PATENT-3,365,897			US-PATENT-APPL-SN-815366			US-PATENT-APPL-SN-248985
N71-28900*	c 07	NASA-CASE-XNP-02389			US-PATENT-CLASS-250-218			US-PATENT-CLASS-320-13
		US-PATENT-APPL-SN-516162			US-PATENT-CLASS-356-103			US-PATENT-3,118,100
		US-PATENT-3,331,071	N71-29008*	c 09	US-PATENT-3,578,867	N71-29131*	c 16	NASA-CASE-ERC-10151
N71-28903*	c 33	NASA-CASE-XLA-01745			NASA-CASE-MSC-11277			US-PATENT-APPL-SN-853856
		US-PATENT-APPL-SN-538907			US-PATENT-APPL-SN-771759			US-PATENT-CLASS-350-3.5
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-317-155.5			US-PATENT-3,578,838
		US-PATENT-3,409,247			US-PATENT-CLASS-317-33	N71-29132*	c 15	NASA-CASE-NPO-10431
N71-28915*	c 28	NASA-CASE-LEW-10286-1			US-PATENT-CLASS-317-54			US-PATENT-APPL-SN-865329
		US-PATENT-APPL-SN-839994			US-PATENT-CLASS-317-60			US-PATENT-CLASS-73-49.8
		US-PATENT-CLASS-431-352	N71-29018*	c 15	US-PATENT-3,579,041	N71-29133*	c 15	US-PATENT-3,583,239
		US-PATENT-CLASS-60-39.36			NASA-CASE-XLA-08916			NASA-CASE-MFS-20453
		US-PATENT-CLASS-60-39.65			US-PATENT-APPL-SN-77765			US-PATENT-APPL-SN-885594
		US-PATENT-3,581,492			US-PATENT-CLASS-29-421			US-PATENT-CLASS-29-278R
N71-28925*	c 08	NASA-CASE-XNP-01012	N71-29032*	c 15	US-PATENT-3,583,058			US-PATENT-CLASS-294-15
		US-PATENT-APPL-SN-369338			NASA-CASE-XMF-05999			US-PATENT-CLASS-339-17R
		US-PATENT-CLASS-340-174			US-PATENT-APPL-SN-752946			US-PATENT-CLASS-81-3R
		US-PATENT-3,394,359			US-PATENT-CLASS-117-212	N71-29134*	c 14	US-PATENT-3,583,744
N71-28926*	c 09	NASA-CASE-XMS-03542	N71-29033*	c 08	US-PATENT-3,576,669			NASA-CASE-MFS-11204
		US-PATENT-APPL-SN-482952			NASA-CASE-GSC-10554-1			US-PATENT-APPL-SN-845991
		US-PATENT-CLASS-307-263			US-PATENT-APPL-SN-828984			US-PATENT-CLASS-73-1R
		US-PATENT-3,364,366			US-PATENT-CLASS-235-150.1			US-PATENT-CLASS-73-304C
N71-28928*	c 28	NASA-CASE-XNP-00816			US-PATENT-CLASS-235-150.2			US-PATENT-3,578,755
		US-PATENT-APPL-SN-235588			US-PATENT-CLASS-235-150.27	N71-29135*	c 10	NASA-CASE-GSC-10564
		US-PATENT-CLASS-253-77			US-PATENT-CLASS-235-151.1			US-PATENT-APPL-SN-292596
		US-PATENT-3,202,398			US-PATENT-3,578,957			US-PATENT-CLASS-340-174
N71-28929*	c 27	NASA-CASE-XNP-00650	N71-29034*	c 08	NASA-CASE-NPO-11088			US-PATENT-3,348,218
		US-PATENT-APPL-SN-271823			US-PATENT-APPL-SN-887701	N71-29136*	c 15	NASA-CASE-XLA-00013
		US-PATENT-CLASS-60-39.48			US-PATENT-CLASS-307-207			US-PATENT-APPL-SN-579121
		US-PATENT-3,170,295			US-PATENT-CLASS-307-222			US-PATENT-CLASS-308-177
N71-28933*	c 14	NASA-CASE-XLA-08913			US-PATENT-CLASS-328-167			US-PATENT-2,903,307
		US-PATENT-APPL-SN-865109			US-PATENT-CLASS-328-44	N71-29137*	c 17	NASA-CASE-XNP-04339
		US-PATENT-CLASS-204-263			US-PATENT-3,579,122			US-PATENT-APPL-SN-451596
		US-PATENT-3,574,084	N71-29035*	c 09	NASA-CASE-LEW-10155-1			US-PATENT-CLASS-264-111
N71-28935*	c 14	NASA-CASE-LAR-10686			US-PATENT-APPL-SN-889387			US-PATENT-3,413,393
		US-PATENT-APPL-SN-280362			US-PATENT-CLASS-337-114	N71-29138*	c 08	NASA-CASE-ERC-10041
		US-PATENT-CLASS-226-58			US-PATENT-CLASS-337-121			US-PATENT-APPL-SN-889478
		US-PATENT-3,298,582			US-PATENT-3,579,168			US-PATENT-CLASS-307-234
N71-28936*	c 15	NASA-CASE-XMS-10993	N71-29040*	c 18	NASA-CASE-XLE-10910			US-PATENT-CLASS-307-265
		US-PATENT-APPL-SN-660573			US-PATENT-APPL-SN-751061			US-PATENT-CLASS-324-106
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-148-6			US-PATENT-CLASS-328-58
		US-PATENT-3,389,877			US-PATENT-3,573,996			US-PATENT-CLASS-332-10
N71-28937*	c 15	NASA-CASE-XNP-01855	N71-29041*	c 14	NASA-CASE-XLA-10402			US-PATENT-CLASS-332-9R
		US-PATENT-APPL-SN-408435			US-PATENT-APPL-SN-762935			US-PATENT-3,579,146
		US-PATENT-CLASS-285-45			US-PATENT-CLASS-356-76	N71-29139*	c 09	NASA-CASE-XLA-07788
		US-PATENT-3,219,365			US-PATENT-3,574,462			US-PATENT-APPL-SN-874732
N71-28951*	c 15	NASA-CASE-XNP-02278	N71-29044*	c 03	NASA-CASE-XMS-02063			US-PATENT-CLASS-307-215
		US-PATENT-APPL-SN-11853			US-PATENT-APPL-SN-422096			US-PATENT-CLASS-307-247
		US-PATENT-CLASS-60-35.55			US-PATENT-CLASS-136-86			US-PATENT-CLASS-307-265
		US-PATENT-3,132,479			US-PATENT-3,382,105			US-PATENT-CLASS-307-273
N71-28952*	c 15	NASA-CASE-XAC-00001	N71-29046*	c 33	NASA-CASE-XHQ-03673			US-PATENT-CLASS-307-294
		US-PATENT-APPL-SN-612568			US-PATENT-APPL-SN-559055			US-PATENT-CLASS-328-207
		US-PATENT-CLASS-318-31			US-PATENT-CLASS-165-86			US-PATENT-3,578,988
		US-PATENT-2,837,706			US-PATENT-3,347,309	N71-29151*	c 33	NASA-CASE-XLE-00035
N71-28958*	c 14	NASA-CASE-XNP-02792	N71-29049*	c 23	NASA-CASE-XNP-06503			US-PATENT-APPL-SN-575291
		US-PATENT-APPL-SN-262596			US-PATENT-APPL-SN-370989			US-PATENT-CLASS-204-37
		US-PATENT-CLASS-219-413			US-PATENT-CLASS-335-216			US-PATENT-2,926,123
		US-PATENT-3,197,616			US-PATENT-3,273,094	N71-29152*	c 33	NASA-CASE-XLE-00027
N71-28959*	c 15	NASA-CASE-XNP-01848			NASA-CASE-HQN-00936			US-PATENT-APPL-SN-529594
		US-PATENT-APPL-SN-359532			US-PATENT-APPL-SN-862921			US-PATENT-CLASS-253-39.1
		US-PATENT-CLASS-64-27			US-PATENT-CLASS-244-1			US-PATENT-2,956,772
		US-PATENT-3,236,066			US-PATENT-3,396,920	N71-29153*	c 28	NASA-CASE-MFS-20831
N71-28960*	c 10	NASA-CASE-XNP-00745	N71-29051*	c 33	NASA-CASE-XMF-04208			US-PATENT-APPL-SN-238421
		US-PATENT-APPL-SN-314570			US-PATENT-APPL-SN-428887			US-PATENT-CLASS-60-35.54
		US-PATENT-CLASS-328-67			US-PATENT-CLASS-73-190			US-PATENT-3,212,259
		US-PATENT-3,252,100			US-PATENT-3,372,588	N71-29154*	c 28	NASA-CASE-XLE-00155
N71-28965* #	c 07	NASA-CASE-GSC-10949-1	N71-29052*	c 33	NASA-CASE-MSC-12389			US-PATENT-APPL-SN-348600
		US-PATENT-APPL-SN-94369			US-PATENT-APPL-SN-229286			US-PATENT-CLASS-253-77
N71-28979*	c 07	NASA-CASE-HQN-00937			US-PATENT-CLASS-165-47			US-PATENT-2,997,274
		US-PATENT-APPL-SN-343760			US-PATENT-3,212,564	N71-29155*	c 27	NASA-CASE-MSC-12390
		US-PATENT-CLASS-343-823			NASA-CASE-HQN-00938			US-PATENT-APPL-SN-231520
		US-PATENT-3,299,431			US-PATENT-APPL-SN-300957			US-PATENT-CLASS-222-61
N71-28980*	c 07	NASA-CASE-XLA-10772			US-PATENT-CLASS-60-267			US-PATENT-3,286,882
		US-PATENT-APPL-SN-887700			US-PATENT-3,298,175	N71-29156*	c 26	NASA-CASE-XNP-01961
		US-PATENT-CLASS-343-708			US-PATENT-CLASS-308-174			US-PATENT-APPL-SN-442835
		US-PATENT-CLASS-343-784			US-PATENT-CLASS-333-81			US-PATENT-CLASS-148-174
		US-PATENT-CLASS-343-872			US-PATENT-CLASS-350-1			US-PATENT-3,397,094
		US-PATENT-3,579,242			US-PATENT-CLASS-350-286	N71-29184*	c 25	NASA-CASE-XLA-00327
N71-28991*	c 14	NASA-CASE-XLA-06713			US-PATENT-3,574,438			US-PATENT-APPL-SN-199199
		US-PATENT-APPL-SN-863913			NASA-CASE-XNP-08907			US-PATENT-CLASS-315-111
		US-PATENT-CLASS-324-73	N71-29123*	c 23	US-PATENT-APPL-SN-824042			US-PATENT-3,238,413
		US-PATENT-CLASS-340-347AD			US-PATENT-CLASS-350-102	N71-30026*	c 14	NASA-CASE-MFS-20096
		US-PATENT-3,579,103			US-PATENT-CLASS-350-288			US-PATENT-APPL-SN-435433
N71-28992*	c 14	NASA-CASE-ERC-10150			US-PATENT-CLASS-350-310			US-PATENT-CLASS-73-432
		US-PATENT-APPL-SN-822519			US-PATENT-3,574,467			US-PATENT-3,396,584
		US-PATENT-CLASS-250-41.95	N71-29125*	c 23	NASA-CASE-NPO-11087	N71-30027*	c 23	NASA-CASE-GSC-10700
		US-PATENT-CLASS-73-40.7			US-PATENT-APPL-SN-840359			US-PATENT-APPL-SN-311387
		US-PATENT-3,578,758			US-PATENT-CLASS-331-94.5			US-PATENT-CLASS-350-2
N71-28993*	c 14	NASA-CASE-MFS-20044			US-PATENT-CLASS-356-153			US-PATENT-3,394,975
		US-PATENT-APPL-SN-838630			US-PATENT-3,574,467	N71-30028*	c 15	NASA-CASE-MFS-20830
		US-PATENT-CLASS-250-219			NASA-CASE-XAC-00048			US-PATENT-APPL-SN-286620
		US-PATENT-CLASS-356-209	N71-29128*	c 02	US-PATENT-APPL-SN-765264			US-PATENT-3,262,395
		US-PATENT-3,574,470			US-PATENT-CLASS-121-38	N71-30265*	c 14	NASA-CASE-HQN-10780
					US-PATENT-2,898,889			US-PATENT-APPL-SN-247136
								US-PATENT-CLASS-73-497

N71-30292*	c 23	US-PATENT-3,270,565 NASA-CASE-HQN-10781 US-PATENT-APPL-SN-86018 US-PATENT-3,239,660	N71-34044* #	c 03	US-PATENT-CLASS-329-145 US-PATENT-3,588,705 NASA-CASE-NPO-11190 US-PATENT-APPL-SN-115944	N72-11365*	c 14	US-PATENT-CLASS-73-95 US-PATENT-3,592,545 NASA-CASE-MFS-20485 US-PATENT-APPL-SN-22320 US-PATENT-CLASS-250-43.5FC US-PATENT-CLASS-73-194F US-PATENT-3,599,489
N71-33108*	c 07	NASA-CASE-KSC-10164 US-PATENT-APPL-SN-782955 US-PATENT-CLASS-179-1R US-PATENT-CLASS-179-1VC US-PATENT-3,588,359	N71-34212* #	c 09	NASA-CASE-MFS-20935 US-PATENT-APPL-SN-136007 NASA-CASE-HQN-10683 US-PATENT-APPL-SN-146217	N72-11385*	c 15	NASA-CASE-MFS-18495 US-PATENT-APPL-SN-38814 US-PATENT-CLASS-24-211N US-PATENT-CLASS-85-5B US-PATENT-3,596,554
N71-33109*	c 09	NASA-CASE-ARC-10101-1 US-PATENT-APPL-SN-793823 US-PATENT-CLASS-307-251 US-PATENT-CLASS-307-261 US-PATENT-CLASS-321-47 US-PATENT-3,588,671	N72-10138* #	c 06	NASA-CASE-HQN-10537-1 US-PATENT-APPL-SN-112366 NASA-CASE-GSC-11095-1 US-PATENT-APPL-SN-147940	N72-11386*	c 15	NASA-CASE-MFS-20249 US-PATENT-APPL-SN-794530 US-PATENT-CLASS-248-183 US-PATENT-CLASS-248-278 US-PATENT-CLASS-248-487 US-PATENT-CLASS-33-72 US-PATENT-CLASS-350-285 US-PATENT-CLASS-350-287 US-PATENT-3,596,863
N71-33110*	c 08	NASA-CASE-GSC-10186 US-PATENT-APPL-SN-713188 US-PATENT-CLASS-235-164 US-PATENT-CLASS-235-175 US-PATENT-3,588,483	N72-11018* #	c 02	NASA-CASE-LAR-10557 US-PATENT-APPL-SN-853746 US-PATENT-CLASS-416-115 US-PATENT-CLASS-416-121 US-PATENT-CLASS-416-127 US-PATENT-CLASS-416-130 US-PATENT-CLASS-416-149 US-PATENT-CLASS-416-200 US-PATENT-3,592,559	N72-11387*	c 15	NASA-CASE-MFS-20423 US-PATENT-APPL-SN-769665 US-PATENT-CLASS-75-20F US-PATENT-3,592,628
N71-33129*	c 10	NASA-CASE-GSC-10667-1 US-PATENT-APPL-SN-749548 US-PATENT-CLASS-330-11 US-PATENT-CLASS-330-16 US-PATENT-CLASS-330-24 US-PATENT-3,585,514	N72-11062* #	c 03	NASA-CASE-XGS-04047-2 US-PATENT-APPL-SN-843251 US-PATENT-CLASS-136-206 US-PATENT-3,597,281	N72-11388*	c 15	NASA-CASE-MFS-20423 US-PATENT-APPL-SN-865298 US-PATENT-CLASS-212-134 US-PATENT-CLASS-308-5 US-PATENT-3,600,046
N71-33160*	c 31	NASA-CASE-XLA-04063 US-PATENT-APPL-SN-802948 US-PATENT-CLASS-179-1 US-PATENT-CLASS-244-1 US-PATENT-CLASS-244-83 US-PATENT-3,586,261	N72-11084* #	c 05	NASA-CASE-NPO-10677 US-PATENT-APPL-SN-868530 US-PATENT-CLASS-62-467 US-PATENT-CLASS-62-56 US-PATENT-3,599,443	N72-11389*	c 15	NASA-CASE-XLA-05056 US-PATENT-APPL-SN-596733 US-PATENT-CLASS-210-445 US-PATENT-3,592,768
N71-33229*	c 23	NASA-CASE-NPO-10468 US-PATENT-APPL-SN-787846 US-PATENT-CLASS-350-310 US-PATENT-CLASS-350-55 US-PATENT-3,588,220	N72-11085* #	c 05	NASA-CASE-MSG-13140 US-PATENT-APPL-SN-796358 US-PATENT-CLASS-285-410 US-PATENT-CLASS-297-232 US-PATENT-CLASS-297-68 US-PATENT-CLASS-5-69 US-PATENT-3,592,505	N72-11390*	c 15	NASA-CASE-MFS-18100 US-PATENT-APPL-SN-784055 US-PATENT-CLASS-15-143 US-PATENT-CLASS-15-1210 US-PATENT-3,591,885
N71-33407*	c 10	NASA-CASE-NPO-10342 US-PATENT-APPL-SN-704446 US-PATENT-CLASS-178-69.5 US-PATENT-CLASS-179-15BS US-PATENT-CLASS-340-347DD US-PATENT-3,588,883	N72-11148* #	c 07	NASA-CASE-NPO-10301 US-PATENT-APPL-SN-848810 US-PATENT-CLASS-343-771 US-PATENT-CLASS-343-853 US-PATENT-3,599,216	N72-11391*	c 15	NASA-CASE-NPO-11012 US-PATENT-APPL-SN-845807 US-PATENT-CLASS-248-18 US-PATENT-CLASS-248-20 US-PATENT-3,592,422
N71-33408*	c 17	NASA-CASE-LEW-10327 US-PATENT-APPL-SN-772006 US-PATENT-CLASS-148-6.3 US-PATENT-3,591,426	N72-11149* #	c 07	NASA-CASE-GSC-10390-1 US-PATENT-APPL-SN-749121 US-PATENT-CLASS-325-39 US-PATENT-CLASS-325-4 US-PATENT-CLASS-325-58 US-PATENT-CLASS-343-179 US-PATENT-CLASS-343-5DP US-PATENT-CLASS-343-7.5 US-PATENT-3,593,138	N72-11392*	c 15	NASA-CASE-MFS-20299 US-PATENT-APPL-SN-889437 US-PATENT-CLASS-156-320 US-PATENT-CLASS-156-66 US-PATENT-CLASS-219-221 US-PATENT-CLASS-219-243 US-PATENT-3,593,001
N71-33409*	c 03	NASA-CASE-ARC-10050 US-PATENT-APPL-SN-797219 US-PATENT-CLASS-136-89 US-PATENT-3,591,420	N72-11150* #	c 07	NASA-CASE-NPO-11064 US-PATENT-APPL-SN-880248 US-PATENT-CLASS-331-10 US-PATENT-CLASS-331-34 US-PATENT-CLASS-331-66 US-PATENT-CLASS-331-7 US-PATENT-3,593,180	N72-11568* #	c 23	NASA-CASE-GSC-11133-1 US-PATENT-APPL-SN-121328 NASA-CASE-MFS-20095 US-PATENT-APPL-SN-855004 US-PATENT-CLASS-250-49.5B US-PATENT-CLASS-250-49.5TE US-PATENT-CLASS-250-51 US-PATENT-CLASS-250-52 US-PATENT-3,593,024
N71-33518*	c 15	NASA-CASE-XLA-03661 US-PATENT-APPL-SN-751266 US-PATENT-CLASS-408-137 US-PATENT-CLASS-90-11 US-PATENT-3,585,882	N72-11171* #	c 08	NASA-CASE-NPO-10769 US-PATENT-APPL-SN-813494 US-PATENT-CLASS-179-15.55R US-PATENT-3,598,921	N72-11708*	c 28	NASA-CASE-MFS-20619 US-PATENT-APPL-SN-189882 US-PATENT-CLASS-139-425R US-PATENT-CLASS-239-265.19 US-PATENT-CLASS-239-265.43 US-PATENT-CLASS-60-271 US-PATENT-3,596,465
N71-33519*	c 09	NASA-CASE-ERC-10100 US-PATENT-APPL-SN-766697 US-PATENT-CLASS-313-109.5 US-PATENT-CLASS-313-231 US-PATENT-CLASS-315-108 US-PATENT-CLASS-315-111 US-PATENT-CLASS-340-324 US-PATENT-CLASS-340-336 US-PATENT-3,588,874	N72-11172* #	c 08	NASA-CASE-GSC-10880-1 US-PATENT-APPL-SN-831118 US-PATENT-CLASS-235-61NV US-PATENT-CLASS-33-15A US-PATENT-CLASS-33-204C US-PATENT-3,599,335	N72-11709*	c 28	NASA-CASE-NPO-10737 US-PATENT-APPL-SN-760114 US-PATENT-CLASS-60-202 US-PATENT-CLASS-60-39-48 US-PATENT-3,591,967
N71-33606*	c 07	NASA-CASE-NPO-11031 US-PATENT-APPL-SN-864097 US-PATENT-CLASS-333-21A US-PATENT-CLASS-333-6 US-PATENT-CLASS-333-7 US-PATENT-3,588,751	N72-11224* #	c 09	NASA-CASE-GSC-10614-1 US-PATENT-APPL-SN-822534 US-PATENT-CLASS-179-100-2CA US-PATENT-CLASS-179-100-2MD US-PATENT-CLASS-274-4R US-PATENT-3,592,478	N72-12080*	c 07	NASA-CASE-GSC-10087-3 US-PATENT-APPL-SN-880885 US-PATENT-CLASS-325-4 US-PATENT-CLASS-343-6.5R US-PATENT-CLASS-343-6.8R US-PATENT-3,594,790
N71-33612*	c 11	NASA-CASE-XLA-09480 US-PATENT-APPL-SN-874435 US-PATENT-CLASS-73-147 US-PATENT-3,587,306	N72-11225* #	c 09	NASA-CASE-KSC-10162 US-PATENT-APPL-SN-817481 US-PATENT-CLASS-324-102 US-PATENT-CLASS-324-119 US-PATENT-CLASS-324-123R US-PATENT-3,593,132	N72-12081*	c 07	NASA-CASE-GSC-10185-1 US-PATENT-APPL-SN-733039 US-PATENT-CLASS-178-DIG.12 US-PATENT-CLASS-178-6 US-PATENT-CLASS-178-7.3 US-PATENT-CLASS-325-10 US-PATENT-CLASS-325-13 US-PATENT-3,588,331
N71-33613*	c 07	NASA-CASE-NPO-10700 US-PATENT-APPL-SN-840308 US-PATENT-CLASS-318-227 US-PATENT-CLASS-318-230 US-PATENT-3,588,648	N72-11256* #	c 10	NASA-CASE-ARC-10042-2 US-PATENT-APPL-SN-33159 US-PATENT-CLASS-330-107 US-PATENT-CLASS-330-109 US-PATENT-3,593,175	N72-12136*	c 09	NASA-CASE-XER-09521 US-PATENT-APPL-SN-771530 US-PATENT-CLASS-136-202 US-PATENT-CLASS-136-206 US-PATENT-CLASS-136-227 US-PATENT-CLASS-343-DIG.3 US-PATENT-CLASS-343-720 US-PATENT-CLASS-343-840 US-PATENT-3,594,803
N71-33696*	c 07	NASA-CASE-MSG-12165-1 US-PATENT-APPL-SN-975649 US-PATENT-CLASS-325-347 US-PATENT-CLASS-325-348 US-PATENT-CLASS-325-473 US-PATENT-CLASS-325-478 US-PATENT-CLASS-325-480 US-PATENT-CLASS-325-482 US-PATENT-CLASS-328-164 US-PATENT-CLASS-328-165	N72-11363* #	c 14	NASA-CASE-MSG-11847-1 US-PATENT-APPL-SN-8497 US-PATENT-CLASS-73-149 US-PATENT-CLASS-73-290B US-PATENT-3,596,510	N72-12408*	c 15	NASA-CASE-XLA-05966
			N72-11364* #	c 14	NASA-CASE-NPO-10778 US-PATENT-APPL-SN-865909 US-PATENT-CLASS-250-235 US-PATENT-CLASS-33-125 US-PATENT-CLASS-356-167 US-PATENT-CLASS-356-32			

		US-PATENT-APPL-SN-784544				US-PATENT-APPL-SN-887698	N72-17451*	c 15	NASA-CASE-WLP-10002
		US-PATENT-CLASS-140-105				US-PATENT-CLASS-128-2.1A			US-PATENT-APPL-SN-47062
		US-PATENT-CLASS-72-307				US-PATENT-CLASS-307-252F			US-PATENT-CLASS-180-125
		US-PATENT-3,584,660				US-PATENT-CLASS-307-252J			US-PATENT-CLASS-180-127
N72-12409*	c 15	NASA-CASE-NPO-10637				US-PATENT-CLASS-325-492			US-PATENT-CLASS-308-DIG.1
		US-PATENT-APPL-SN-851298				US-PATENT-CLASS-340-177			US-PATENT-CLASS-308-5
		US-PATENT-CLASS-236-68				US-PATENT-3,603,946			US-PATENT-CLASS-308-9
		US-PATENT-CLASS-337-354	N72-17154*	c 09	NASA-CASE-ERC-10139				US-PATENT-3,610,365
		US-PATENT-CLASS-337-359			US-PATENT-APPL-SN-889555		N72-17452*	c 15	NASA-CASE-XLA-10322
		US-PATENT-CLASS-337-75			US-PATENT-CLASS-321-10				US-PATENT-APPL-SN-887699
		US-PATENT-CLASS-60-23			US-PATENT-CLASS-336-178				US-PATENT-CLASS-73-88.5R
		US-PATENT-3,591,960			US-PATENT-3,603,864				US-PATENT-3,608,365
N72-12440*	c 16	NASA-CASE-MFS-20180	N72-17155*	c 09	NASA-CASE-NPO-11023		N72-17453*	c 15	NASA-CASE-NPO-11177
		US-PATENT-APPL-SN-863276			US-PATENT-APPL-SN-865274				US-PATENT-APPL-SN-20960
		US-PATENT-CLASS-331-94.5			US-PATENT-CLASS-330-18				US-PATENT-CLASS-62-51
		US-PATENT-CLASS-350-1			US-PATENT-CLASS-330-40				US-PATENT-3,605,424
		US-PATENT-CLASS-350-312			US-PATENT-3,603,892		N72-17454*	c 15	NASA-CASE-NPO-11059
		US-PATENT-3,593,194	N72-17156*	c 09	NASA-CASE-NPO-10199				US-PATENT-APPL-SN-864020
N72-13437*	c 16	NASA-CASE-MFS-20125			US-PATENT-APPL-SN-739391				US-PATENT-CLASS-248-14
		US-PATENT-APPL-SN-830366			US-PATENT-CLASS-178-7.1				US-PATENT-3,606,979
		US-PATENT-CLASS-178-DIG.21			US-PATENT-CLASS-330-11		N72-17455*	c 15	NASA-CASE-NPO-11140
		US-PATENT-CLASS-178-6			US-PATENT-CLASS-330-35				US-PATENT-APPL-SN-15019
		US-PATENT-CLASS-250-203X			US-PATENT-3,609,230				US-PATENT-CLASS-174-84
		US-PATENT-CLASS-356-152			US-PATENT-CLASS-328-186				US-PATENT-CLASS-200-64
		US-PATENT-3,603,686	N72-17157*	c 09	NASA-CASE-NPO-11253				US-PATENT-CLASS-339-176M
N72-15098* #	c 05	NASA-CASE-MSC-13917-1			US-PATENT-APPL-SN-21906				US-PATENT-CLASS-339-278M
		US-PATENT-APPL-SN-199255			US-PATENT-CLASS-307-223				US-PATENT-CLASS-330-45
N72-15986*	c 03	NASA-CASE-XGS-10010			US-PATENT-CLASS-307-227				US-PATENT-CLASS-89-1.811
		US-PATENT-APPL-SN-729299			US-PATENT-CLASS-307-81				US-PATENT-3,611,274
		US-PATENT-CLASS-136-133			US-PATENT-CLASS-328-186		N72-17532*	c 18	NASA-CASE-MFS-13532
		US-PATENT-CLASS-136-135			US-PATENT-3,609,387				US-PATENT-APPL-SN-720546
		US-PATENT-CLASS-136-6	N72-17171*	c 10	NASA-CASE-XAC-05462-2				US-PATENT-CLASS-106-292
		US-PATENT-3,607,401			US-PATENT-APPL-SN-28235				US-PATENT-CLASS-106-299
N72-16015*	c 05	NASA-CASE-KSC-10278			US-PATENT-CLASS-307-295				US-PATENT-3,607,338
		US-PATENT-APPL-SN-856327			US-PATENT-CLASS-328-167		N72-17747*	c 23	NASA-CASE-ERC-10089
		US-PATENT-CLASS-324-66			US-PATENT-CLASS-330-109				US-PATENT-APPL-SN-791267
		US-PATENT-CLASS-340-279			US-PATENT-CLASS-330-176				US-PATENT-CLASS-340-174AG
		US-PATENT-CLASS-35-8			US-PATENT-CLASS-333-70CR				US-PATENT-CLASS-340-174CT
		US-PATENT-3,609,740			US-PATENT-3,609,567				US-PATENT-CLASS-340-174GA
N72-16172*	c 10	NASA-CASE-ARC-10269-1	N72-17172*	c 10	NASA-CASE-ARC-10020				US-PATENT-CLASS-340-174SC
		US-PATENT-APPL-SN-56791			US-PATENT-APPL-SN-31885				US-PATENT-3,611,330
		US-PATENT-CLASS-307-230			US-PATENT-CLASS-330-107		N72-17820*	c 26	NASA-CASE-XER-08476-1
		US-PATENT-CLASS-307-262			US-PATENT-CLASS-330-109				US-PATENT-APPL-SN-672388
		US-PATENT-CLASS-328-155			US-PATENT-CLASS-330-26				US-PATENT-CLASS-148-187
		US-PATENT-3,614,475			US-PATENT-CLASS-330-31				US-PATENT-CLASS-29-578
N72-16282*	c 14	NASA-CASE-LAR-10913			US-PATENT-CLASS-330-94				US-PATENT-CLASS-29-589
		US-PATENT-APPL-SN-779160	N72-17173*	c 10	US-PATENT-3,605,032				US-PATENT-3,602,984
		US-PATENT-CLASS-73-12			NASA-CASE-MFS-13130		N72-17843*	c 28	NASA-CASE-NPO-10046
		US-PATENT-3,605,482			US-PATENT-APPL-SN-7868				US-PATENT-APPL-SN-860635
N72-16283*	c 14	NASA-CASE-GSC-10780-1			US-PATENT-CLASS-250-209				US-PATENT-CLASS-60-258
		US-PATENT-APPL-SN-860493			US-PATENT-CLASS-250-83.3UV				US-PATENT-CLASS-60-39.74
		US-PATENT-CLASS-82-24R			US-PATENT-CLASS-340-228.2				US-PATENT-3,603,092
		US-PATENT-3,608,409	N72-17183*	c 11	US-PATENT-3,609,364		N72-17873*	c 30	NASA-CASE-ARC-10134
N72-16329*	c 15	NASA-CASE-XLA-07829			US-PATENT-APPL-SN-889557				US-PATENT-APPL-SN-819898
		US-PATENT-APPL-SN-763684			US-PATENT-CLASS-73-121				US-PATENT-CLASS-244-3.21
		US-PATENT-CLASS-264-DIG.44			US-PATENT-3,602,920		N72-17947*	c 33	NASA-CASE-MSC-12143-1
		US-PATENT-CLASS-264-221			NASA-CASE-ERC-10248				US-PATENT-APPL-SN-791268
		US-PATENT-CLASS-264-225	N72-17323*	c 14	US-PATENT-APPL-SN-868445				US-PATENT-CLASS-102-105
		US-PATENT-CLASS-264-227			US-PATENT-CLASS-350-162				US-PATENT-CLASS-161-67
		US-PATENT-3,608,046			US-PATENT-CLASS-356-113				US-PATENT-CLASS-244-117
N72-16330*	c 15	NASA-CASE-LAR-10203-1			US-PATENT-CLASS-356-209				US-PATENT-3,603,260
		US-PATENT-APPL-SN-769592			US-PATENT-CLASS-356-244		N72-17948*	c 33	NASA-CASE-NPO-10828
		US-PATENT-CLASS-156-84			US-PATENT-3,603,690				US-PATENT-APPL-SN-873260
		US-PATENT-CLASS-156-86	N72-17324*	c 14	NASA-CASE-MFS-20596				US-PATENT-CLASS-165-105
		US-PATENT-3,607,495			US-PATENT-APPL-SN-7867				US-PATENT-3,603,382
N72-17093*	c 06	NASA-CASE-LEW-10794-1			US-PATENT-CLASS-350-3.5		N72-18184*	c 08	NASA-CASE-NPO-10629
		US-PATENT-APPL-SN-33535			US-PATENT-3,605,519				US-PATENT-APPL-SN-860751
		US-PATENT-CLASS-23-55	N72-17325*	c 14	NASA-CASE-MSC-15158-1				US-PATENT-CLASS-178-50
		US-PATENT-CLASS-23-88			US-PATENT-APPL-SN-889479				US-PATENT-CLASS-178-66
		US-PATENT-CLASS-23-97			US-PATENT-CLASS-324-52				US-PATENT-CLASS-179-15
		US-PATENT-3,607,015			US-PATENT-3,609,535				US-PATENT-CLASS-235-154
N72-17094*	c 06	NASA-CASE-NPO-10234	N72-17326*	c 14	NASA-CASE-XMS-01994-1				US-PATENT-CLASS-340-347DD
		US-PATENT-APPL-SN-800204			US-PATENT-APPL-SN-814212				US-PATENT-3,603,976
		US-PATENT-CLASS-23-230R			US-PATENT-CLASS-356-4		N72-18411*	c 14	NASA-CASE-KSC-10294
		US-PATENT-CLASS-23-232C			US-PATENT-3,603,683				US-PATENT-APPL-SN-889556
		US-PATENT-CLASS-23-253PC	N72-17327*	c 14	NASA-CASE-LEW-10281-1				US-PATENT-CLASS-307-311
		US-PATENT-CLASS-73-23.1			US-PATENT-APPL-SN-861649				US-PATENT-CLASS-346-107A
		US-PATENT-3,607,076			US-PATENT-CLASS-73-198				US-PATENT-CLASS-346-23
N72-17095*	c 06	NASA-CASE-NPO-10774			US-PATENT-3,605,495				US-PATENT-CLASS-352-84
		US-PATENT-APPL-SN-848805	N72-17328*	c 14	NASA-CASE-XLA-07813				US-PATENT-CLASS-95-1.1
		US-PATENT-CLASS-23-201			US-PATENT-APPL-SN-791364				US-PATENT-3,603,974
		US-PATENT-CLASS-23-230			US-PATENT-CLASS-250-207		N72-18477*	c 15	NASA-CASE-GSC-10566-1
		US-PATENT-CLASS-23-253			US-PATENT-CLASS-250-41.9				US-PATENT-APPL-SN-889438
		US-PATENT-CLASS-73-76			US-PATENT-CLASS-250-49.5				US-PATENT-CLASS-242-54
		US-PATENT-3,607,080			US-PATENT-CLASS-250-71.5				US-PATENT-CLASS-52-108
N72-17109*	c 07	NASA-CASE-MSC-12146-1			US-PATENT-CLASS-250-83.3				US-PATENT-3,608,844
		US-PATENT-APPL-SN-50206			US-PATENT-3,609,353		N72-18766*	c 28	NASA-CASE-GSC-10640-1
		US-PATENT-CLASS-178-5.2R	N72-17329*	c 14	NASA-CASE-FRC-10012				US-PATENT-APPL-SN-17101
		US-PATENT-CLASS-178-5.4			US-PATENT-APPL-SN-771216				US-PATENT-CLASS-23-281
		US-PATENT-CLASS-178-6.7			US-PATENT-CLASS-73-194A				US-PATENT-CLASS-23-288
		US-PATENT-3,603,722			US-PATENT-3,611,801				US-PATENT-CLASS-60-260
N72-17152*	c 09	NASA-CASE-ARC-10178-1	N72-17450*	c 15	NASA-CASE-MSC-12279				US-PATENT-3,603,093
		US-PATENT-APPL-SN-47443			US-PATENT-APPL-SN-24154		N72-18859*	c 31	NASA-CASE-MSC-13281
		US-PATENT-CLASS-250-211J			US-PATENT-CLASS-188-1C				US-PATENT-APPL-SN-7669
		US-PATENT-3,603,798			US-PATENT-CLASS-188-129				US-PATENT-CLASS-244-15.5
N72-17153*	c 09	NASA-CASE-ARC-10105			US-PATENT-3,603,433				



N72-20031*	c 03	US-PATENT-3,606,212	US-PATENT-CLASS-307-313	US-PATENT-APPL-SN-10161
		NASA-CASE-GSC-10669-1	US-PATENT-CLASS-328-207	US-PATENT-CLASS-122-32
N72-20032*	c 03	US-PATENT-APPL-SN-90595	US-PATENT-CLASS-330-30D	US-PATENT-CLASS-165-133
		US-PATENT-CLASS-136-89	US-PATENT-3,633,048	US-PATENT-CLASS-165-155
N72-20033*	c 03	US-PATENT-CLASS-244-ISS	NASA-CASE-XLA-11189	US-PATENT-CLASS-165-158
		US-PATENT-CLASS-340-210	US-PATENT-APPL-SN-889375	US-PATENT-CLASS-165-161
N72-20034*	c 03	US-PATENT-3,636,539	US-PATENT-CLASS-324-115	US-PATENT-CLASS-165-174
		NASA-CASE-NPO-11021	US-PATENT-CLASS-324-132	US-PATENT-3,630,276
N72-20035*	c 03	US-PATENT-APPL-SN-880250	US-PATENT-3,638,114	N72-21094* c 06
		US-PATENT-CLASS-136-166	NASA-CASE-NPO-11133	NASA-CASE-ERC-10108
N72-20036*	c 03	US-PATENT-CLASS-136-79	US-PATENT-APPL-SN-887685	US-PATENT-APPL-SN-833049
		US-PATENT-CLASS-136-81	US-PATENT-CLASS-307-295	US-PATENT-CLASS-156-3
N72-20037*	c 03	US-PATENT-3,625,766	US-PATENT-CLASS-328-16	US-PATENT-CLASS-96-36.2
		NASA-CASE-NPO-10401	US-PATENT-CLASS-328-166	US-PATENT-3,615,465
N72-20038*	c 03	US-PATENT-APPL-SN-15025	US-PATENT-CLASS-328-20	N72-21105* # c 06
		US-PATENT-CLASS-210-212	US-PATENT-CLASS-328-38	NASA-CASE-GSC-11304-1
N72-20039*	c 03	US-PATENT-CLASS-356-222	US-PATENT-3,626,308	US-PATENT-APPL-SN-137912
		US-PATENT-3,630,627	NASA-CASE-NPO-11203	N72-21117* c 07
N72-20040*	c 03	NASA-CASE-LEW-11359-2	US-PATENT-APPL-SN-3696	NASA-CASE-XLA-11154
		US-PATENT-APPL-SN-57399	US-PATENT-CLASS-324-83A	US-PATENT-APPL-SN-23532
N72-20041*	c 03	US-PATENT-CLASS-136-100R	US-PATENT-CLASS-324-85	US-PATENT-CLASS-343-706
		US-PATENT-CLASS-136-175	US-PATENT-CLASS-328-133	US-PATENT-CLASS-343-912
N72-20042*	c 03	US-PATENT-CLASS-136-83R	US-PATENT-CLASS-343-12	US-PATENT-3,623,107
		US-PATENT-3,635,765	US-PATENT-3,631,351	N72-21118* c 07
N72-20043*	c 03	NASA-CASE-MSC-12411-1	NASA-CASE-NPO-11203	NASA-CASE-NPO-11001
		US-PATENT-APPL-SN-701244	US-PATENT-APPL-SN-3696	US-PATENT-APPL-SN-856279
N72-20044*	c 03	US-PATENT-CLASS-128-142.5	US-PATENT-CLASS-324-83A	US-PATENT-CLASS-343-100ST
		US-PATENT-CLASS-128-402	US-PATENT-CLASS-324-85	US-PATENT-CLASS-343-5CM
N72-20045*	c 03	US-PATENT-CLASS-2-2.1	US-PATENT-CLASS-315-22	US-PATENT-CLASS-343-6.5R
		US-PATENT-3,635,216	US-PATENT-CLASS-315-25	US-PATENT-3,624,650
N72-20046*	c 03	NASA-CASE-MFS-20332	US-PATENT-3,638,066	N72-21119* c 07
		US-PATENT-APPL-SN-869260	NASA-CASE-NPO-11210	NASA-CASE-ERC-10112
N72-20047*	c 03	US-PATENT-CLASS-137-469	US-PATENT-APPL-SN-880831	US-PATENT-APPL-SN-796690
		US-PATENT-CLASS-137-81	US-PATENT-CLASS-123-102	US-PATENT-CLASS-179-100.2K
N72-20048*	c 03	US-PATENT-3,636,966	US-PATENT-CLASS-180-105E	US-PATENT-3,614,343
		NASA-CASE-MSC-12398	US-PATENT-CLASS-318-308	N72-21197* c 08
N72-20049*	c 03	US-PATENT-APPL-SN-785615	US-PATENT-CLASS-318-327	NASA-CASE-KSC-10326
		US-PATENT-CLASS-2-2.1	US-PATENT-CLASS-318-376	US-PATENT-APPL-SN-25487
N72-20050*	c 03	US-PATENT-3,624,839	US-PATENT-3,630,304	US-PATENT-CLASS-235-155
		NASA-CASE-NPO-10765	NASA-CASE-GSC-10514-1	US-PATENT-CLASS-340-347DD
N72-20051*	c 03	US-PATENT-APPL-SN-770425	US-PATENT-APPL-SN-8730045	US-PATENT-3,638,002
		US-PATENT-CLASS-260-544F	US-PATENT-CLASS-250-208	N72-21198* c 08
N72-20052*	c 03	US-PATENT-3,637,842	US-PATENT-CLASS-356-138	NASA-CASE-ERC-10307
		NASA-CASE-NPO-10844	US-PATENT-CLASS-356-152	US-PATENT-APPL-SN-39755
N72-20053*	c 03	US-PATENT-APPL-SN-839934	US-PATENT-3,637,312	US-PATENT-CLASS-307-299
		US-PATENT-CLASS-178-69.5R	NASA-CASE-LAR-10176-1	US-PATENT-CLASS-340-173.2
N72-20054*	c 03	US-PATENT-CLASS-179-15BS	US-PATENT-APPL-SN-811038	US-PATENT-CLASS-340-173LS
		US-PATENT-CLASS-325-321	US-PATENT-CLASS-95-18	US-PATENT-3,623,030
N72-20055*	c 03	US-PATENT-CLASS-325-38	US-PATENT-3,626,828	N72-21199* c 08
		US-PATENT-CLASS-325-4	NASA-CASE-GSC-10503-1	NASA-CASE-NPO-10743
N72-20056*	c 03	US-PATENT-CLASS-325-58	US-PATENT-APPL-SN-789044	US-PATENT-APPL-SN-850587
		US-PATENT-3,626,298	US-PATENT-CLASS-250-83.6R	US-PATENT-CLASS-340-174CS
N72-20057*	c 03	NASA-CASE-ERC-10179	US-PATENT-3,626,189	US-PATENT-CLASS-340-174LC
		US-PATENT-APPL-SN-50207	NASA-CASE-GSC-10607-1	US-PATENT-CLASS-340-174M
N72-20058*	c 03	US-PATENT-CLASS-325-445	US-PATENT-APPL-SN-27340	US-PATENT-CLASS-340-174FSR
		US-PATENT-CLASS-329-161	US-PATENT-CLASS-251-129	US-PATENT-3,613,110
N72-20059*	c 03	US-PATENT-CLASS-329-162	US-PATENT-CLASS-251-333	N72-21200* c 08
		US-PATENT-CLASS-332-51W	US-PATENT-3,632,081	NASA-CASE-NPO-11018
N72-20060*	c 03	US-PATENT-CLASS-333-73W	NASA-CASE-NPO-10671	US-PATENT-APPL-SN-873259
		US-PATENT-CLASS-343-772	US-PATENT-APPL-SN-857967	US-PATENT-CLASS-340-347AD
N72-20061*	c 03	US-PATENT-CLASS-343-773	US-PATENT-CLASS-188-1B	US-PATENT-3,613,111
		US-PATENT-CLASS-343-786	US-PATENT-CLASS-188-1C	N72-21243* c 09
N72-20062*	c 03	US-PATENT-3,633,110	US-PATENT-CLASS-188-268	NASA-CASE-LEW-11005-1
		NASA-CASE-NPO-11243	US-PATENT-3,637,051	US-PATENT-APPL-SN-86548
N72-20063*	c 03	US-PATENT-APPL-SN-177753	NASA-CASE-FRC-10038	US-PATENT-CLASS-323-DIG.1
		US-PATENT-CLASS-235-152	US-PATENT-APPL-SN-889554	US-PATENT-CLASS-323-22T
N72-20064*	c 03	US-PATENT-CLASS-235-92CC	US-PATENT-CLASS-29-412	US-PATENT-CLASS-323-38
		US-PATENT-CLASS-235-92DE	US-PATENT-CLASS-29-426	US-PATENT-3,638,103
N72-20065*	c 03	US-PATENT-CLASS-235-92DM	US-PATENT-CLASS-29-527.2	N72-21244* c 09
		US-PATENT-CLASS-235-92LG	US-PATENT-CLASS-29-624	NASA-CASE-LAR-10545-1
N72-20066*	c 03	US-PATENT-CLASS-235-92R	US-PATENT-CLASS-51-216	US-PATENT-APPL-SN-31703
		US-PATENT-CLASS-340-347DA	US-PATENT-CLASS-51-320	US-PATENT-CLASS-343-771
N72-20067*	c 03	US-PATENT-CLASS-340-347DD	US-PATENT-CLASS-51-323	US-PATENT-CLASS-343-893
		US-PATENT-3,632,996	US-PATENT-3,636,623	US-PATENT-3,638,224
N72-20068*	c 03	NASA-CASE-NPO-10748	NASA-CASE-NPO-10704	N72-21245* c 09
		US-PATENT-APPL-SN-63383	US-PATENT-APPL-SN-59895	NASA-CASE-ARC-10192
N72-20069*	c 03	US-PATENT-CLASS-324-77G	US-PATENT-CLASS-138-178	US-PATENT-APPL-SN-15024
		US-PATENT-3,631,339	US-PATENT-CLASS-285-18	US-PATENT-CLASS-307-230
N72-20070*	c 03	NASA-CASE-NPO-10722	US-PATENT-CLASS-285-345	US-PATENT-CLASS-307-295
		US-PATENT-APPL-SN-860492	US-PATENT-3,632,140	US-PATENT-CLASS-328-142
N72-20071*	c 03	US-PATENT-CLASS-200-81.9M	NASA-CASE-MFS-20698	US-PATENT-CLASS-328-167
		US-PATENT-CLASS-335-205	US-PATENT-APPL-SN-3418	US-PATENT-CLASS-330-70R
N72-20072*	c 03	US-PATENT-CLASS-335-205	US-PATENT-CLASS-100-299	US-PATENT-CLASS-330-85
		US-PATENT-3,632,923	US-PATENT-CLASS-23-209.1	US-PATENT-CLASS-333-80
N72-20073*	c 03	NASA-CASE-NPO-10694	US-PATENT-CLASS-264-22	US-PATENT-3,621,407
		US-PATENT-APPL-SN-24224	US-PATENT-CLASS-425-77	N72-21246* c 09
N72-20074*	c 03	US-PATENT-CLASS-339-275T	US-PATENT-3,632,242	NASA-CASE-NPO-11134
		US-PATENT-CLASS-339-276T	US-PATENT-APPL-SN-751215	US-PATENT-APPL-SN-883524
N72-20075*	c 03	US-PATENT-3,631,382	US-PATENT-CLASS-176-86G	US-PATENT-CLASS-318-576
		NASA-CASE-ERC-10468	US-PATENT-3,629,068	US-PATENT-CLASS-324-71R
N72-20076*	c 03	US-PATENT-APPL-SN-144958	NASA-CASE-XNP-03282	US-PATENT-CLASS-346-1
		NASA-CASE-GSC-10082-1	US-PATENT-APPL-SN-745337	US-PATENT-CLASS-346-29
N72-20077*	c 03	US-PATENT-APPL-SN-41430	US-PATENT-CLASS-60-254	US-PATENT-3,624,659
		US-PATENT-CLASS-307-273	US-PATENT-3,636,711	N72-21247* c 09
N72-20078*	c 03	US-PATENT-CLASS-307-288	NASA-CASE-MFS-20922	NASA-CASE-KSC-10393
			US-PATENT-APPL-SN-220274	US-PATENT-APPL-SN-71047
N72-20079*	c 03		NASA-CASE-NPO-10831	US-PATENT-CLASS-307-257
				US-PATENT-CLASS-307-259
N72-20080*	c 03			US-PATENT-CLASS-331-111
				US-PATENT-CLASS-331-14
N72-20081*	c 03			US-PATENT-CLASS-331-23
				US-PATENT-3,614,648
N72-20082*	c 03			N72-21248* # c 09
				NASA-CASE-LAR-10503-1
N72-20083*	c 03			US-PATENT-APPL-SN-229143
				NASA-CASE-MFS-20829
N72-20084*	c 03			US-PATENT-APPL-SN-61894
				US-PATENT-CLASS-169-28

		US-PATENT-CLASS-169-36				US-PATENT-APPL-SN-78065			US-PATENT-CLASS-325-29	
		US-PATENT-3,613,794				US-PATENT-CLASS-178-52			US-PATENT-CLASS-325-492	
N72-21405*	c 14	NASA-CASE-NPO-10832				US-PATENT-CLASS-179-15A			US-PATENT-CLASS-340-171	
		US-PATENT-APPL-SN-22265				US-PATENT-CLASS-179-15BL			US-PATENT-CLASS-340-203	
		US-PATENT-CLASS-73-141A				US-PATENT-CLASS-307-243			US-PATENT-3,621,290	
		US-PATENT-3,623,360				US-PATENT-CLASS-307-251	N72-22203*	c 09	NASA-CASE-XER-11046	
N72-21407*	c 14	NASA-CASE-MFS-20642				US-PATENT-CLASS-328-104			US-PATENT-APPL-SN-810579	
		US-PATENT-APPL-SN-873793				US-PATENT-CLASS-328-154			US-PATENT-CLASS-321-15	
		US-PATENT-CLASS-73-147				US-PATENT-3,614,327			US-PATENT-CLASS-321-18	
		US-PATENT-3,623,361	N72-22163*	c 08	NASA-CASE-MSC-13110-1				US-PATENT-CLASS-321-2	
		NASA-CASE-MSC-13332-1			US-PATENT-APPL-SN-23132				US-PATENT-CLASS-321-45	
N72-21408*	c 14	US-PATENT-APPL-SN-77169			US-PATENT-CLASS-340-347AD				US-PATENT-CLASS-331-117	
		US-PATENT-CLASS-250-43.5R			US-PATENT-3,614,772				US-PATENT-3,621,362	
		US-PATENT-CLASS-250-83.3H	N72-22164*	c 08	NASA-CASE-NPO-10745			N72-22204*	c 09	NASA-CASE-LAR-10137-1
		US-PATENT-3,614,431			US-PATENT-APPL-SN-878730				US-PATENT-APPL-SN-881041	
N72-21409*	c 14	NASA-CASE-MSC-12105-1			US-PATENT-CLASS-178-DIG.28				US-PATENT-CLASS-200-81R	
		US-PATENT-APPL-SN-763743			US-PATENT-CLASS-178-DIG.36				US-PATENT-CLASS-200-82C	
		US-PATENT-CLASS-356-17			US-PATENT-CLASS-178-6.8				US-PATENT-3,609,271	
		US-PATENT-CLASS-356-18			US-PATENT-CLASS-178-7.2R			N72-22235*	c 10	NASA-CASE-GSC-10064-1
		US-PATENT-3,614,228			US-PATENT-3,621,130				US-PATENT-APPL-SN-802812	
N72-21462*	c 15	NASA-CASE-NPO-10679	N72-22165*	c 08	NASA-CASE-NPO-11104				US-PATENT-CLASS-343-16M	
		US-PATENT-APPL-SN-848282			US-PATENT-APPL-SN-860750				US-PATENT-CLASS-343-7.4	
		US-PATENT-CLASS-74-89.15			US-PATENT-CLASS-235-150.52				US-PATENT-CLASS-343-779	
		US-PATENT-3,614,898			US-PATENT-CLASS-235-150.53				US-PATENT-CLASS-343-786	
N72-21463*	c 15	NASA-CASE-MFS-20413			US-PATENT-CLASS-235-183				US-PATENT-3,623,094	
		US-PATENT-APPL-SN-69209			US-PATENT-CLASS-235-194			N72-22236*	c 10	NASA-CASE-GSC-10878-1
		US-PATENT-CLASS-74-45C			US-PATENT-CLASS-235-197				US-PATENT-APPL-SN-884273	
		US-PATENT-3,620,095			US-PATENT-CLASS-340-347R				US-PATENT-CLASS-307-206	
N72-21464*	c 15	NASA-CASE-ARC-10176-1	N72-22166*	c 08	US-PATENT-3,621,228				US-PATENT-CLASS-307-215	
		US-PATENT-APPL-SN-889583			NASA-CASE-NPO-10560				US-PATENT-CLASS-307-322	
		US-PATENT-CLASS-324-57R			US-PATENT-APPL-SN-856282				US-PATENT-CLASS-307-323	
		US-PATENT-CLASS-324-64			US-PATENT-CLASS-235-153				US-PATENT-3,621,277	
		US-PATENT-CLASS-324-71R			US-PATENT-CLASS-324-73AT			N72-22245*	c 11	NASA-CASE-NPO-12109
		US-PATENT-3,624,496			US-PATENT-CLASS-340-347AD				US-PATENT-APPL-SN-690172	
N72-21465*	c 15	NASA-CASE-GSC-10218-1			US-PATENT-3,603,772				US-PATENT-CLASS-230-221	
		US-PATENT-APPL-SN-15022	N72-22167*	c 08	NASA-CASE-NPO-11082				US-PATENT-CLASS-230-54	
		US-PATENT-CLASS-141-23			US-PATENT-APPL-SN-868529				US-PATENT-3,612,391	
		US-PATENT-CLASS-195-127			US-PATENT-CLASS-235-152			N72-22246*	c 11	NASA-CASE-XLA-07430
		US-PATENT-CLASS-222-135			US-PATENT-CLASS-340-146.1				US-PATENT-APPL-SN-867841	
		US-PATENT-CLASS-222-309			US-PATENT-CLASS-340-348				US-PATENT-CLASS-73-147	
		US-PATENT-CLASS-222-71			US-PATENT-3,609,327				US-PATENT-3,620,076	
		US-PATENT-CLASS-23-253R	N72-22195*	c 09	NASA-CASE-MFS-14710			N72-22247*	c 11	NASA-CASE-NPO-11013
		US-PATENT-CLASS-23-259			US-PATENT-APPL-SN-852843				US-PATENT-APPL-SN-858695	
		US-PATENT-CLASS-73-425.6			US-PATENT-CLASS-74-105				US-PATENT-CLASS-42-1F	
		US-PATENT-3,615,241	N72-22196*	c 09	US-PATENT-3,614,899			N72-22247*	c 14	US-PATENT-3,619,924
N72-21466*	c 15	NASA-CASE-NPO-10440			NASA-CASE-ERC-10075-2			N72-22437*	c 14	NASA-CASE-LAR-10496-1
		US-PATENT-APPL-SN-756834			US-PATENT-APPL-SN-775870				US-PATENT-APPL-SN-12661	
		US-PATENT-CLASS-204-130			US-PATENT-CLASS-321-14				US-PATENT-CLASS-73-141A	
		US-PATENT-CLASS-204-59			US-PATENT-CLASS-321-19				US-PATENT-3,611,798	
		US-PATENT-3,616,338			US-PATENT-CLASS-321-2			N72-22438*	c 14	NASA-CASE-ARC-10263-1
N72-21489* #	c 15	NASA-CASE-XLA-10470			US-PATENT-CLASS-321-25				US-PATENT-APPL-SN-882122	
		US-PATENT-APPL-SN-219436			US-PATENT-CLASS-323-56				US-PATENT-CLASS-73-398C	
N72-21624*	c 21	NASA-CASE-HQN-10439			US-PATENT-CLASS-323-89C				US-PATENT-3,620,083	
		US-PATENT-APPL-SN-889551			US-PATENT-3,614,587			N72-22439*	c 14	NASA-CASE-MFS-20890
		US-PATENT-CLASS-244-1SA	N72-22197*	c 09	NASA-CASE-LEW-10433-1				US-PATENT-APPL-SN-103229	
		US-PATENT-3,637,170			US-PATENT-APPL-SN-849106				US-PATENT-CLASS-264-22	
N72-21701*	c 26	NASA-CASE-ERC-10119			US-PATENT-CLASS-307-262				US-PATENT-CLASS-29-421	
		US-PATENT-APPL-SN-825258			US-PATENT-CLASS-307-88MP				US-PATENT-CLASS-310-11	
		US-PATENT-CLASS-307-299			US-PATENT-3,612,895				US-PATENT-CLASS-310-42	
		US-PATENT-CLASS-317-234V	N72-22198*	c 09	NASA-CASE-MFS-13687-2				US-PATENT-3,626,218	
		US-PATENT-CLASS-317-235R			US-PATENT-APPL-SN-80369			N72-22440*	c 14	NASA-CASE-ARC-10154-1
		US-PATENT-CLASS-331-107			US-PATENT-CLASS-174-106R				US-PATENT-APPL-SN-793771	
		US-PATENT-CLASS-332-31			US-PATENT-CLASS-174-117FF				US-PATENT-CLASS-73-67.2	
		US-PATENT-3,614,557			US-PATENT-CLASS-174-36				US-PATENT-3,620,069	
N72-21893* #	c 31	NASA-CASE-KSC-10622-1			US-PATENT-3,612,743			N72-22441*	c 14	NASA-CASE-NPO-11002
		US-PATENT-APPL-SN-149983	N72-22199*	c 09	NASA-CASE-ERC-10222				US-PATENT-APPL-SN-856328	
N72-22041*	c 03	NASA-CASE-NPO-10591			US-PATENT-APPL-SN-832603				US-PATENT-CLASS-350-19	
		US-PATENT-APPL-SN-776185			US-PATENT-CLASS-29-590				US-PATENT-CLASS-350-23	
		US-PATENT-CLASS-29-572			US-PATENT-3,621,565				US-PATENT-CLASS-350-26	
		US-PATENT-3,616,528	N72-22200*	c 09	NASA-CASE-FRC-10036				US-PATENT-CLASS-350-35	
N72-22042*	c 03	NASA-CASE-NPO-10747			US-PATENT-APPL-SN-872602				US-PATENT-CLASS-350-36	
		US-PATENT-APPL-SN-6616			US-PATENT-CLASS-307-237				US-PATENT-CLASS-350-49	
		US-PATENT-CLASS-136-89			US-PATENT-CLASS-307-254				US-PATENT-CLASS-350-52	
		US-PATENT-3,615,853			US-PATENT-CLASS-307-317				US-PATENT-3,612,645	
N72-22092*	c 05	NASA-CASE-ARC-10275-1			US-PATENT-CLASS-328-1			N72-22442*	c 14	NASA-CASE-MFS-21629
		US-PATENT-APPL-SN-21644			US-PATENT-CLASS-328-151				US-PATENT-APPL-SN-612265	
		US-PATENT-CLASS-2-2.1A			US-PATENT-CLASS-73-88.5				US-PATENT-CLASS-324-61	
		US-PATENT-3,636,564			US-PATENT-3,621,285				US-PATENT-CLASS-73-304	
N72-22093*	c 05	NASA-CASE-MSC-12324-1	N72-22201*	c 09	NASA-CASE-LEW-10387				US-PATENT-3,639,835	
		US-PATENT-APPL-SN-63384			US-PATENT-APPL-SN-76899			N72-22443*	c 14	NASA-CASE-XGS-03736
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		US-PATENT-CLASS-323-DIG.1			US-PATENT-CLASS-52-648			US-PATENT-3,658,569
		US-PATENT-CLASS-323-17			US-PATENT-CLASS-52-655	N72-25453*	c 15	NASA-CASE-KSC-10513
		US-PATENT-CLASS-323-22T			US-PATENT-3,665,670			US-PATENT-APPL-SN-61535
		US-PATENT-3,621,372	N72-25288*	c 11	NASA-CASE-MFS-20434			US-PATENT-CLASS-187-1
N72-25250*	c 09	NASA-CASE-KSC-10565			US-PATENT-APPL-SN-55534			US-PATENT-CLASS-187-20
		US-PATENT-APPL-SN-98517			US-PATENT-CLASS-73-140			US-PATENT-CLASS-187-95
		US-PATENT-CLASS-315-135			US-PATENT-CLASS-73-161			US-PATENT-CLASS-254-190
		US-PATENT-CLASS-315-349			US-PATENT-3,665,758			US-PATENT-3,666,051
		US-PATENT-CLASS-330-2	N72-25292*	c 12	NASA-CASE-NPO-11556	N72-25454*	c 15	NASA-CASE-MS-12233-1
		US-PATENT-CLASS-330-59			US-PATENT-APPL-SN-82648			US-PATENT-APPL-SN-73422
		US-PATENT-CLASS-340-332			US-PATENT-CLASS-210-188			US-PATENT-CLASS-52-169
		US-PATENT-3,659,148			US-PATENT-CLASS-310-11			US-PATENT-CLASS-52-173
N72-25251*	c 09	NASA-CASE-ERC-10048			US-PATENT-3,648,083			US-PATENT-CLASS-52-594
		US-PATENT-APPL-SN-10329	N72-25323*	c 13	NASA-CASE-NPO-11373			US-PATENT-3,665,669
		US-PATENT-CLASS-307-261			US-PATENT-APPL-SN-81095	N72-25455*	c 15	NASA-CASE-NPO-11095
		US-PATENT-CLASS-321-18			US-PATENT-CLASS-73-421.5R			US-PATENT-APPL-SN-19585
		US-PATENT-CLASS-321-2			US-PATENT-CLASS-73-422GC			US-PATENT-CLASS-239-424
		US-PATENT-3,659,184			US-PATENT-CLASS-73-422TC			US-PATENT-CLASS-60-258
N72-25252*	c 09	NASA-CASE-ERC-10268			US-PATENT-3,662,604			US-PATENT-CLASS-60-39.74A
		US-PATENT-APPL-SN-39342	N72-25409*	c 14	NASA-CASE-ERC-10174			US-PATENT-3,662,547
		US-PATENT-CLASS-321-11			US-PATENT-APPL-SN-39344	N72-25456*	c 15	NASA-CASE-NPO-11222

				US-PATENT-APPL-SN-59893				US-PATENT-CLASS-136-202				US-PATENT-APPL-SN-59968
				US-PATENT-CLASS-310-68				US-PATENT-3,666,566				US-PATENT-CLASS-248-188.4
				US-PATENT-CLASS-310-80				NASA-CASE-NPO-10244				US-PATENT-3,669,393
				US-PATENT-3,660,704				US-PATENT-APPL-SN-43327		N72-27485*	c 15	NASA-CASE-XLA-09843
N72-25457*	c 15			NASA-CASE-ERC-10325				US-PATENT-CLASS-308-2A				US-PATENT-APPL-SN-60876
				US-PATENT-APPL-SN-43884				US-PATENT-CLASS-73-136R				US-PATENT-CLASS-83-522
				US-PATENT-CLASS-324-158D				US-PATENT-3,664,185				US-PATENT-CLASS-83-562
				US-PATENT-CLASS-324-158T		N72-27053*	c 03	NASA-CASE-GSC-10344-1				US-PATENT-CLASS-83-563
				US-PATENT-3,665,307				US-PATENT-APPL-SN-785078				US-PATENT-CLASS-83-588
N72-25485*	c 16			NASA-CASE-ERC-10283				US-PATENT-CLASS-136-89				US-PATENT-CLASS-83-8
				US-PATENT-APPL-SN-39185				US-PATENT-3,672,999				US-PATENT-3,668,956
				US-PATENT-CLASS-331-94.5		N72-27102*	c 05	NASA-CASE-LAR-10365-1		N72-27728*	c 23	NASA-CASE-ARC-10160-1
				US-PATENT-CLASS-332-7.51				US-PATENT-APPL-SN-3151				US-PATENT-APPL-SN-867842
				US-PATENT-3,659,225				US-PATENT-CLASS-210-103				US-PATENT-CLASS-178-DIG.20
N72-25539*	c 18			NASA-CASE-LEW-10424-2.2				US-PATENT-CLASS-210-104				US-PATENT-CLASS-178-6.5
				US-PATENT-APPL-SN-15222				US-PATENT-CLASS-210-110				US-PATENT-CLASS-350-138
				US-PATENT-CLASS-75-DIG.1				US-PATENT-CLASS-210-137				US-PATENT-3,670,097
				US-PATENT-CLASS-75-208				US-PATENT-3,670,890		N72-27784*	c 26	NASA-CASE-LAR-10836-1
				US-PATENT-CLASS-75-211		N72-27103*	c 05	NASA-CASE-MSC-13648				US-PATENT-APPL-SN-138227
				US-PATENT-CLASS-75-226				US-PATENT-APPL-SN-87222				US-PATENT-CLASS-350-161
				US-PATENT-3,653,882				US-PATENT-CLASS-128-DIG.4				US-PATENT-3,671,105
N72-25540*	c 18			NASA-CASE-ERC-10364				US-PATENT-CLASS-128-2.1E		N72-27959*	c 33	NASA-CASE-LAR-10800-1
				US-PATENT-APPL-SN-55537				US-PATENT-CLASS-128-417				US-PATENT-APPL-SN-154094
				US-PATENT-CLASS-161-127				US-PATENT-3,669,110				US-PATENT-CLASS-73-35
				US-PATENT-CLASS-161-68		N72-27144*	c 06	NASA-CASE-NPO-10768-2				US-PATENT-3,670,559
				US-PATENT-CLASS-161-7				US-PATENT-APPL-SN-770398		N72-28025*	c 03	NASA-CASE-NPO-10633
				US-PATENT-CLASS-52-DIG.10				US-PATENT-APPL-SN-99524				US-PATENT-APPL-SN-885521
				US-PATENT-CLASS-52-80				US-PATENT-CLASS-260-535H				US-PATENT-CLASS-165-20
				US-PATENT-3,663,347				US-PATENT-CLASS-260-77.5AP				US-PATENT-CLASS-165-3
N72-25541*	c 18			NASA-CASE-ERC-10363		N72-27151* #	c 06	US-PATENT-3,671,497				US-PATENT-3,675,712
				US-PATENT-APPL-SN-57253				NASA-CASE-NPO-10767-2		N72-28225*	c 09	NASA-CASE-MFS-20757
				US-PATENT-CLASS-161-127				US-PATENT-APPL-SN-241061				US-PATENT-APPL-SN-136006
				US-PATENT-CLASS-161-68		N72-27226*	c 09	NASA-CASE-LEW-10330-1				US-PATENT-CLASS-339-176MF
				US-PATENT-CLASS-161-7				US-PATENT-APPL-SN-110402				US-PATENT-CLASS-339-218M
				US-PATENT-CLASS-52-DIG.10				US-PATENT-CLASS-336-198				US-PATENT-CLASS-339-75MP
				US-PATENT-CLASS-52-80				US-PATENT-CLASS-336-220				US-PATENT-CLASS-339-94M
				US-PATENT-3,663,346				US-PATENT-CLASS-336-60				US-PATENT-3,670,290
N72-25595*	c 21			NASA-CASE-MSC-13397-1		N72-27227*	c 09	US-PATENT-3,648,209		N72-28240*	c 10	NASA-CASE-ARC-10265-1
				US-PATENT-APPL-SN-59966				NASA-CASE-KSC-10644				US-PATENT-APPL-SN-64709
				US-PATENT-CLASS-244-1SA				US-PATENT-APPL-SN-114849				US-PATENT-CLASS-324-41
				US-PATENT-CLASS-244-23A				US-PATENT-CLASS-307-118				US-PATENT-CLASS-340-258
				US-PATENT-3,662,973				US-PATENT-CLASS-307-92				US-PATENT-3,676,772
N72-25619*	c 23			NASA-CASE-NPO-10634				US-PATENT-CLASS-340-240		N72-28241*	c 10	NASA-CASE-GSC-10786-1
				US-PATENT-APPL-SN-112999				US-PATENT-3,673,424				US-PATENT-APPL-SN-773072
				US-PATENT-CLASS-62-475		N72-27228*	c 09	NASA-CASE-NPO-10542				US-PATENT-CLASS-330-29
				US-PATENT-CLASS-62-6				US-PATENT-APPL-SN-767741				US-PATENT-3,533,006
				US-PATENT-CLASS-62-80				US-PATENT-CLASS-310-4		N72-28436*	c 14	NASA-CASE-XLA-06683
				US-PATENT-CLASS-62-85				US-PATENT-3,673,440				US-PATENT-APPL-SN-10827
				US-PATENT-3,656,313		N72-27246*	c 10	NASA-CASE-ERC-10015-2				US-PATENT-CLASS-33-1SA
N72-25679*	c 26			NASA-CASE-XER-07895				US-PATENT-APPL-SN-763744				US-PATENT-CLASS-33-75R
				US-PATENT-APPL-SN-651627				US-PATENT-APPL-SN-97343				US-PATENT-3,675,332
				US-PATENT-CLASS-317-234J				US-PATENT-CLASS-313-309		N72-28437*	c 14	NASA-CASE-ERC-10081
				US-PATENT-CLASS-317-235A				US-PATENT-CLASS-313-336				US-PATENT-APPL-SN-877990
				US-PATENT-CLASS-317-235AJ				US-PATENT-CLASS-313-351				US-PATENT-CLASS-325-363
				US-PATENT-CLASS-317-235R				US-PATENT-CLASS-315-36				US-PATENT-CLASS-343-100ME
				US-PATENT-CLASS-331-107G				US-PATENT-3,671,798				US-PATENT-CLASS-343-112D
				US-PATENT-3,667,010		N72-27262*	c 11	NASA-CASE-MFS-20620				US-PATENT-CLASS-73-355
N72-25680*	c 26			NASA-CASE-ERC-10275				US-PATENT-APPL-SN-154935				US-PATENT-3,665,467
				US-PATENT-APPL-SN-47061				US-PATENT-CLASS-73-117.1		N72-28438*	c 14	NASA-CASE-XLA-04980-2
				US-PATENT-CLASS-324-92				US-PATENT-CLASS-73-432SD				US-PATENT-APPL-SN-577548
				US-PATENT-CLASS-324-96				US-PATENT-3,670,564				US-PATENT-APPL-SN-763040
				US-PATENT-CLASS-340-324R		N72-27408*	c 14	NASA-CASE-NPO-11147				US-PATENT-CLASS-148-187
				US-PATENT-CLASS-350-150				US-PATENT-APPL-SN-63195				US-PATENT-3,549,435
				US-PATENT-CLASS-350-160R				US-PATENT-CLASS-324-79R		N72-28495*	c 15	NASA-CASE-MFS-14405
				US-PATENT-3,667,039				US-PATENT-CLASS-328-189				US-PATENT-APPL-SN-73283
N72-25699*	c 27			NASA-CASE-NPO-12000				US-PATENT-CLASS-331-44				US-PATENT-CLASS-214-1CM
				US-PATENT-APPL-SN-74861				US-PATENT-3,670,241				US-PATENT-CLASS-74-469
				US-PATENT-CLASS-149-19		N72-27409*	c 14	NASA-CASE-NPO-11201				US-PATENT-3,631,737
				US-PATENT-CLASS-149-20				US-PATENT-APPL-SN-77220				NASA-CASE-MFS-20433
				US-PATENT-CLASS-149-36				US-PATENT-CLASS-250-203R		N72-28496*	c 15	US-PATENT-APPL-SN-114847
				US-PATENT-CLASS-149-92				US-PATENT-CLASS-250-225				US-PATENT-CLASS-52-1
				US-PATENT-3,658,608				US-PATENT-CLASS-350-147				US-PATENT-CLASS-52-573
N72-25842*	c 31			NASA-CASE-MSC-12372-1				US-PATENT-CLASS-356-141				US-PATENT-3,675,376
				US-PATENT-APPL-SN-64391				US-PATENT-CLASS-356-152		N72-28521*	c 16	NASA-CASE-NPO-11437
				US-PATENT-CLASS-95-12.5				US-PATENT-3,670,168				US-PATENT-APPL-SN-63144
				US-PATENT-3,662,661		N72-27410*	c 14	NASA-CASE-XLE-05230				US-PATENT-CLASS-330-4
N72-25877*	c 32			NASA-CASE-LAR-10270-1				US-PATENT-APPL-SN-877717				US-PATENT-CLASS-331-94
				US-PATENT-APPL-SN-60881				US-PATENT-CLASS-136-233				US-PATENT-3,676,787
				US-PATENT-CLASS-73-100				US-PATENT-3,671,329		N72-28535*	c 17	NASA-CASE-XLE-06461-2
				US-PATENT-CLASS-73-15.6				NASA-CASE-MSC-12293-1				US-PATENT-APPL-SN-156778
				US-PATENT-3,665,751		N72-27411*	c 14	US-PATENT-APPL-SN-59956				US-PATENT-APPL-SN-853855
N72-25911*	c 33			NASA-CASE-LEW-10359				US-PATENT-CLASS-250-205				US-PATENT-CLASS-266-24
				US-PATENT-APPL-SN-47063				US-PATENT-CLASS-315-151				US-PATENT-3,675,910
				US-PATENT-CLASS-102-105				US-PATENT-CLASS-315-156		N72-28536*	c 17	NASA-CASE-XLE-03940-2
				US-PATENT-CLASS-60-200A				US-PATENT-CLASS-315-158				US-PATENT-APPL-SN-539255
				US-PATENT-CLASS-60-265				US-PATENT-CLASS-315-297				US-PATENT-APPL-SN-793657
				US-PATENT-CLASS-60-267				US-PATENT-CLASS-315-307				US-PATENT-CLASS-29-162.5
				US-PATENT-CLASS-62-467				US-PATENT-CLASS-315-311				US-PATENT-3,676,084
				US-PATENT-3,656,317				US-PATENT-3,670,202		N72-28761*	c 26	NASA-CASE-NPO-11775
N72-25913*	c 33			NASA-CASE-XMS-09690				NASA-CASE-MFS-20523				US-PATENT-APPL-SN-162230
				US-PATENT-APPL-SN-853641				US-PATENT-APPL-SN-77786				US-PATENT-CLASS-29-570
				US-PATENT-CLASS-73-15R				US-PATENT-CLASS-73-103				US-PATENT-CLASS-317-230
				US-PATENT-3,665,750				US-PATENT-CLASS-73-71.6				US-PATENT-CLASS-317-261
N72-26031*	c 03			NASA-CASE-NPO-10753				US-PATENT-3,670,563				US-PATENT-3,676,754
				US-PATENT-APPL-SN-844355		N72-27484*	c 15	NASA-CASE-NPO-10721		N72-28762*	c 26	NASA-CASE-LAR-10294-1

		US-PATENT-APPL-SN-796685			US-PATENT-3,690,291			US-PATENT-CLASS-325-480
		US-PATENT-CLASS-106-39	N72-32688*	c 25	NASA-CASE-MFS-20589			US-PATENT-3,700,812
		US-PATENT-CLASS-106-46			US-PATENT-APPL-SN-103077	N73-12264*	c 11	NASA-CASE-LAR-10348-1
		US-PATENT-CLASS-117-212			US-PATENT-CLASS-313-231			US-PATENT-APPL-SN-70032
		US-PATENT-CLASS-117-217			US-PATENT-CLASS-315-111			US-PATENT-CLASS-73-147
		US-PATENT-CLASS-29-25.42			US-PATENT-3,693,002			US-PATENT-3,695,101
		US-PATENT-3,649,353	N72-33072*	c 04	NASA-CASE-ERC-10338	N73-12265*	c 11	NASA-CASE-NPO-10890
N72-29172*	c 09	NASA-CASE-LAR-10511-1			US-PATENT-APPL-SN-50339			US-PATENT-APPL-SN-99903
		US-PATENT-APPL-SN-41345			US-PATENT-CLASS-23-109			US-PATENT-CLASS-137-559
		US-PATENT-CLASS-333-24R			US-PATENT-3,679,360			US-PATENT-CLASS-219-203
		US-PATENT-CLASS-333-98P	N72-33096*	c 05	NASA-CASE-MSC-13540-1			US-PATENT-CLASS-219-522
		US-PATENT-CLASS-333-98R			US-PATENT-APPL-SN-68023			US-PATENT-CLASS-52-171
		US-PATENT-3,676,809			US-PATENT-CLASS-99-80PS			US-PATENT-3,696,833
N72-29464*	c 14	NASA-CASE-ARC-10017-1	N72-33146*	c 07	US-PATENT-3,692,533	N73-12444*	c 14	NASA-CASE-GSC-10903-1
		US-PATENT-APPL-SN-55536			NASA-CASE-MSC-12259-2			US-PATENT-APPL-SN-114846
		US-PATENT-CLASS-250-41.9D			US-PATENT-APPL-SN-61895			US-PATENT-CLASS-250-41.9G
		US-PATENT-CLASS-250-71.5R			US-PATENT-APPL-SN-853763			US-PATENT-CLASS-250-41.9S
		US-PATENT-CLASS-313-356			US-PATENT-CLASS-325-373			US-PATENT-CLASS-73-421.5
		US-PATENT-3,676,674	N72-33172*	c 08	US-PATENT-3,694,753			US-PATENT-3,700,893
N72-29488*	c 15	NASA-CASE-XLE-10326-2			NASA-CASE-NPO-11630	N73-12445*	c 14	NASA-CASE-LAR-10728-1
		US-PATENT-APPL-SN-54540			US-PATENT-APPL-SN-143078			US-PATENT-APPL-SN-112998
		US-PATENT-APPL-SN-723465			US-PATENT-CLASS-179-15.55R			US-PATENT-CLASS-250-83.3H
		US-PATENT-CLASS-277-25			US-PATENT-3,694,581			US-PATENT-CLASS-250-83.3R
		US-PATENT-CLASS-277-27	N72-33204*	c 09	NASA-CASE-NPO-11129			US-PATENT-CLASS-250-83R
		US-PATENT-CLASS-277-74			US-PATENT-APPL-SN-883523			US-PATENT-3,700,897
		US-PATENT-3,675,935			US-PATENT-CLASS-307-262	N73-12446*	c 14	NASA-CASE-NPO-11239
N72-31140*	c 06	NASA-CASE-MSC-13335-1			US-PATENT-CLASS-307-295			US-PATENT-APPL-SN-89211
		US-PATENT-APPL-SN-55806			US-PATENT-CLASS-328-155			US-PATENT-CLASS-356-106
		US-PATENT-CLASS-55-16			US-PATENT-CLASS-328-24			US-PATENT-CLASS-356-114
		US-PATENT-CLASS-55-55			US-PATENT-3,621,406			US-PATENT-3,700,334
		US-PATENT-3,678,654	N72-33205*	c 09	NASA-CASE-GSC-10835-1	N73-12447*	c 14	NASA-CASE-NPO-11493
N72-31141*	c 06	NASA-CASE-ARC-10308-1			US-PATENT-APPL-SN-116778			US-PATENT-APPL-SN-151413
		US-PATENT-APPL-SN-134568			US-PATENT-CLASS-317-101A			US-PATENT-CLASS-136-224
		US-PATENT-CLASS-250-43.5R			US-PATENT-CLASS-317-235			US-PATENT-3,700,503
		US-PATENT-CLASS-356-51			US-PATENT-CLASS-317-235A	N73-12486*	c 15	NASA-CASE-KSC-10615
		US-PATENT-3,679,899			US-PATENT-CLASS-317-235AJ			US-PATENT-APPL-SN-103078
N72-31226*	c 08	NASA-CASE-NPO-11016	N72-33230*	c 10	US-PATENT-3,694,700			US-PATENT-CLASS-244-1SB
		US-PATENT-APPL-SN-889584			NASA-CASE-GSC-11340-1			US-PATENT-CLASS-244-135
		US-PATENT-CLASS-235-150.1			US-PATENT-APPL-SN-107379			US-PATENT-CLASS-62-45
		US-PATENT-CLASS-235-151.1			US-PATENT-CLASS-330-12			US-PATENT-CLASS-62-7
		US-PATENT-CLASS-235-92MT			US-PATENT-CLASS-331-115			US-PATENT-3,697,021
		US-PATENT-CLASS-323-19			US-PATENT-CLASS-331-116R	N73-12487*	c 15	NASA-CASE-FRC-10019
		US-PATENT-CLASS-340-347AD			US-PATENT-CLASS-333-80T			US-PATENT-APPL-SN-880398
		US-PATENT-3,681,581			US-PATENT-3,693,105			US-PATENT-CLASS-204-192
N72-31235*	c 09	NASA-CASE-ERC-10214	N72-33377*	c 14	NASA-CASE-MFS-20760			US-PATENT-3,700,575
		US-PATENT-APPL-SN-863914			US-PATENT-APPL-SN-99174	N73-12488*	c 15	NASA-CASE-ARC-10345-1
		US-PATENT-CLASS-343-770			US-PATENT-CLASS-73-141AB			US-PATENT-APPL-SN-193671
		US-PATENT-CLASS-343-771			US-PATENT-CLASS-73-85			US-PATENT-CLASS-287-85R
		US-PATENT-CLASS-343-786			US-PATENT-3,693,418			US-PATENT-CLASS-308-2A
		US-PATENT-CLASS-343-797	N72-33476*	c 15	NASA-CASE-XGS-07805			US-PATENT-CLASS-74-5F
		US-PATENT-CLASS-343-853			US-PATENT-APPL-SN-104884			US-PATENT-3,700,291
		US-PATENT-3,680,142			US-PATENT-CLASS-308-10	N73-12489*	c 15	NASA-CASE-MSC-12357
N72-31273*	c 10	NASA-CASE-KSC-10647-1			US-PATENT-3,694,041			US-PATENT-APPL-SN-662763
		US-PATENT-APPL-SN-774691	N72-33477*	c 15	NASA-CASE-NPO-11340			US-PATENT-CLASS-264-102
		US-PATENT-CLASS-178-7.5E			US-PATENT-APPL-SN-147997			US-PATENT-CLASS-264-28
		US-PATENT-CLASS-315-22R			US-PATENT-CLASS-137-13			US-PATENT-CLASS-264-36
		US-PATENT-CLASS-315-30R			US-PATENT-CLASS-137-81.5			US-PATENT-CLASS-264-40
		US-PATENT-CLASS-330-27R			US-PATENT-CLASS-60-1			US-PATENT-3,697,630
		US-PATENT-3,678,191			US-PATENT-CLASS-60-36	N73-12492* #	c 15	NASA-CASE-XLA-08914
N72-31446*	c 14	NASA-CASE-ERC-10087-2			US-PATENT-3,693,346			US-PATENT-APPL-SN-810576
		US-PATENT-APPL-SN-738315	N72-33681*	c 24	NASA-CASE-LEW-10518-1	N73-12495* #	c 15	NASA-CASE-NPO-13086-1
		US-PATENT-APPL-SN-91642			US-PATENT-APPL-SN-863280			US-PATENT-APPL-SN-292477
		US-PATENT-CLASS-29-588			US-PATENT-CLASS-176-11	N73-12547*	c 17	NASA-CASE-LAR-10539-1
		US-PATENT-CLASS-317-234D			US-PATENT-3,694,313			US-PATENT-APPL-SN-136085
		US-PATENT-CLASS-317-234G	N72-33696*	c 25	NASA-CASE-GSC-11291-1			US-PATENT-CLASS-23-230R
		US-PATENT-CLASS-317-235M			US-PATENT-APPL-SN-102412			US-PATENT-3,701,631
		US-PATENT-CLASS-317-235R			US-PATENT-CLASS-250-83.6R	N73-12604*	c 18	NASA-CASE-MFS-20408
		US-PATENT-3,686,542			US-PATENT-3,694,655			US-PATENT-APPL-SN-71048
N72-31483*	c 15	NASA-CASE-LAR-10061-1	N73-12175*	c 08	NASA-CASE-NPO-11406			US-PATENT-CLASS-161-93
		US-PATENT-APPL-SN-104047			US-PATENT-APPL-SN-95183			US-PATENT-3,700,538
		US-PATENT-CLASS-251-331			US-PATENT-CLASS-235-152	N73-12884*	c 30	NASA-CASE-MSC-12391
		US-PATENT-CLASS-251-86			US-PATENT-CLASS-331-78			US-PATENT-APPL-SN-106465
		US-PATENT-3,680,830			US-PATENT-CLASS-340-146.1AL			US-PATENT-CLASS-244-155
N72-31637*	c 21	NASA-CASE-GSC-10945-1			US-PATENT-3,700,869			US-PATENT-3,700,193
		US-PATENT-APPL-SN-75431	N73-12176*	c 08	NASA-CASE-KSC-10595	N73-13008*	c 02	NASA-CASE-GSC-11077-1
		US-PATENT-CLASS-60-23			US-PATENT-APPL-SN-98772			US-PATENT-APPL-SN-127618
		US-PATENT-CLASS-60-26			US-PATENT-CLASS-235-155			US-PATENT-CLASS-244-32
		US-PATENT-3,678,685			US-PATENT-CLASS-340-347DD			US-PATENT-3,698,667
N72-32169*	c 07	NASA-CASE-NPO-11361			US-PATENT-3,697,733	N73-13114*	c 05	NASA-CASE-MSC-13604-1
		US-PATENT-APPL-SN-112988	N73-12177*	c 08	NASA-CASE-NPO-11371			US-PATENT-APPL-SN-78717
		US-PATENT-CLASS-343-781			US-PATENT-APPL-SN-117575			US-PATENT-CLASS-128-2N
		US-PATENT-CLASS-343-837			US-PATENT-CLASS-340-146.1AQ			US-PATENT-CLASS-273-1E
		US-PATENT-CLASS-343-840			US-PATENT-CLASS-340-146.1AV			US-PATENT-CLASS-35-22R
		US-PATENT-CLASS-343-915			US-PATENT-3,697,950			US-PATENT-3,698,385
N72-32452*	c 14	US-PATENT-3,680,144	N73-12211*	c 09	NASA-CASE-ERC-10412-1	N73-13128*	c 06	NASA-CASE-GSC-11214-1
		NASA-CASE-MFS-15162			US-PATENT-APPL-SN-72024			US-PATENT-APPL-SN-115134
		US-PATENT-APPL-SN-100639			US-PATENT-CLASS-343-11R			US-PATENT-CLASS-117-35R
		US-PATENT-CLASS-350-79			US-PATENT-CLASS-343-11VB			US-PATENT-3,702,775
		US-PATENT-CLASS-356-241			US-PATENT-CLASS-343-5DP	N73-13129*	c 06	NASA-CASE-XNP-08124-2
		US-PATENT-3,694,094			US-PATENT-3,696,418			US-PATENT-APPL-SN-97829
N72-32487*	c 15	NASA-CASE-LAR-10541-1	N73-12214* #	c 09	NASA-CASE-NPO-13091-1			US-PATENT-CLASS-75-66
		US-PATENT-APPL-SN-138229			US-PATENT-APPL-SN-290022			US-PATENT-3,702,762
		US-PATENT-CLASS-118-49.1	N73-12244*	c 10	NASA-CASE-NPO-11631	N73-13149*	c 07	NASA-CASE-NPO-11302-1
		US-PATENT-CLASS-204-298			US-PATENT-APPL-SN-123253			US-PATENT-APPL-SN-70967
		US-PATENT-CLASS-219-121P			US-PATENT-CLASS-179-1P			US-PATENT-CLASS-178-69.5
		US-PATENT-CLASS-219-273			US-PATENT-CLASS-325-473			US-PATENT-CLASS-235-150.53



N73-13187*	c 08	US-PATENT-CLASS-235-181	N73-13489*	c 16	US-PATENT-CLASS-325-325	N73-14584*	c 18	US-PATENT-CLASS-174-525
		US-PATENT-CLASS-340-146.1			US-PATENT-CLASS-340-146.1			US-PATENT-CLASS-29-589
		US-PATENT-CLASS-340-146.1			US-PATENT-CLASS-340-146.1			US-PATENT-CLASS-29-589
N73-13208*	c 09	NASA-CASE-GSC-10975-1	N73-13562*	c 18	US-PATENT-APPL-SN-100996	N73-14692*	c 21	US-PATENT-CLASS-317-234A
		US-PATENT-CLASS-340-172.5			US-PATENT-CLASS-340-172.5			US-PATENT-CLASS-317-234G
		US-PATENT-3,702,463			US-PATENT-CLASS-340-172.5			US-PATENT-3,705,255
N73-13209*	c 09	NASA-CASE-LEW-11192-1	N73-13643*	c 21	US-PATENT-APPL-SN-198285	N73-14853*	c 31	NASA-CASE-LAR-10894-1
		US-PATENT-APPL-SN-198285			US-PATENT-CLASS-315-3.5			US-PATENT-APPL-SN-189375
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-39F
N73-13235*	c 10	US-PATENT-CLASS-315-3.5	N73-13644*	c 21	US-PATENT-CLASS-315-3.5	N73-14854*	c 31	US-PATENT-CLASS-106-55
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-58
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
N73-13257*	c 11	US-PATENT-CLASS-315-3.5	N73-13660*	c 23	US-PATENT-CLASS-315-3.5	N73-15235*	c 09	US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
N73-13415*	c 14	US-PATENT-CLASS-315-3.5	N73-13661*	c 23	US-PATENT-CLASS-315-3.5	N73-16106*	c 06	US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
N73-13416*	c 14	US-PATENT-CLASS-315-3.5	N73-13662*	c 23	US-PATENT-CLASS-315-3.5	N73-16121*	c 07	US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
N73-13417*	c 14	US-PATENT-CLASS-315-3.5	N73-13898*	c 31	US-PATENT-CLASS-315-3.5	N73-16205*	c 10	US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
N73-13418*	c 14	US-PATENT-CLASS-315-3.5	N73-13921*	c 32	US-PATENT-CLASS-315-3.5	N73-16206*	c 10	US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
N73-13420*	c 14	US-PATENT-CLASS-315-3.5	N73-14130*	c 07	US-PATENT-CLASS-315-3.5	N73-16483*	c 14	US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-106-63
		US-PATENT-CLASS-315-3.5			US-PATENT-			







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N74-14935*	c 33	US-PATENT-CLASS-235-153AK	N74-15145*	c 36	US-PATENT-CLASS-73-67.8S	N74-17955*	c 09	US-PATENT-APPL-SN-201700
		US-PATENT-3,783,250			US-PATENT-3,777,552			US-PATENT-CLASS-324-102
N74-14939*	c 33	NASA-CASE-MFS-21462-1	N74-15146*	c 35	NASA-CASE-NPO-11856-1	N74-18088*	c 35	US-PATENT-CLASS-324-118
		US-PATENT-APPL-SN-239576			US-PATENT-APPL-SN-235268			US-PATENT-CLASS-329-50
N74-14956*	c 33	US-PATENT-CLASS-219-477	N74-15395*	c 38	US-PATENT-CLASS-250-217SS	N74-18089*	c 31	US-PATENT-3,795,862
		US-PATENT-CLASS-219-539			US-PATENT-CLASS-331-94.5K			NASA-CASE-LAR-10812-1
N74-15089*	c 19	US-PATENT-CLASS-338-320	N74-15453*	c 07	US-PATENT-CLASS-331-94.5S	N74-18123*	c 37	US-PATENT-APPL-SN-263815
		US-PATENT-CLASS-373-397			US-PATENT-CLASS-350-6			US-PATENT-CLASS-73-147
N74-15090*	c 35	NASA-CASE-FRC-10072-1	N74-15652*	c 34	US-PATENT-CLASS-356-152	N74-18124*	c 31	US-PATENT-3,791,207
		US-PATENT-APPL-SN-162100			US-PATENT-CLASS-356-4			NASA-CASE-LAR-11027-1
N74-15091*	c 35	US-PATENT-CLASS-330-10	N74-15778*	c 51	US-PATENT-CLASS-356-5	N74-18125*	c 37	US-PATENT-APPL-SN-275118
		US-PATENT-CLASS-330-35			US-PATENT-3,781,111			US-PATENT-CLASS-250-338
N74-15092*	c 35	US-PATENT-CLASS-330-9	N74-16135*	c 35	NASA-CASE-MFS-21455-1	N74-18126*	c 37	US-PATENT-CLASS-250-370
		US-PATENT-3,783,399			US-PATENT-APPL-SN-281877			US-PATENT-CLASS-250-371
N74-15093*	c 35	NASA-CASE-MSC-17832-1	N74-17153*	c 35	US-PATENT-CLASS-350-3.5	N74-18127*	c 37	US-PATENT-3,790,795
		US-PATENT-APPL-SN-293727			US-PATENT-CLASS-356-106			NASA-CASE-LAR-10318-1
N74-15094*	c 35	US-PATENT-CLASS-307-127	N74-17283*	c 27	US-PATENT-CLASS-73-71.3	N74-18128*	c 37	US-PATENT-APPL-SN-224489
		US-PATENT-CLASS-317-33SC			US-PATENT-3,782,825			US-PATENT-CLASS-156-245
N74-15095*	c 74	US-PATENT-CLASS-317-43	N74-17583*	c 54	NASA-CASE-MFS-21233-1	N74-18225*	c 09	US-PATENT-CLASS-156-287
		US-PATENT-CLASS-317-46			US-PATENT-APPL-SN-246056			US-PATENT-CLASS-156-309
N74-15125*	c 37	US-PATENT-CLASS-317-47	N74-17885*	c 35	US-PATENT-CLASS-324-40	N74-19310*	c 72	US-PATENT-3,793,109
		US-PATENT-CLASS-317-48			US-PATENT-CLASS-73-67.5R			NASA-CASE-NPO-13160-1
N74-15126*	c 35	US-PATENT-3,783,354	N74-17927*	c 33	US-PATENT-CLASS-73-71.5U	N74-19528*	c 09	US-PATENT-APPL-SN-359157
		NASA-CASE-LAR-10586-1			US-PATENT-3,782,177			US-PATENT-CLASS-321-8R
N74-15128*	c 37	US-PATENT-APPL-SN-289049	N74-17928*	c 33	NASA-CASE-LEW-11569-1	N74-19528*	c 09	US-PATENT-CLASS-324-57R
		US-PATENT-CLASS-102-70.2R			US-PATENT-APPL-SN-316618			US-PATENT-3,795,858
N74-15130*	c 38	US-PATENT-CLASS-244-1SA	N74-17929*	c 33	US-PATENT-CLASS-181-43	N74-19528*	c 09	NASA-CASE-LAR-10634-1
		US-PATENT-CLASS-244-3.16			US-PATENT-3,780,827			US-PATENT-APPL-SN-214084
		US-PATENT-CLASS-250-203R			NASA-CASE-LAR-10105-1			US-PATENT-CLASS-23-253PC
		US-PATENT-CLASS-250-237R			US-PATENT-APPL-SN-170680			US-PATENT-CLASS-23-259
		US-PATENT-3,780,966			US-PATENT-CLASS-73-86			US-PATENT-CLASS-259-72
		NASA-CASE-NPO-11432-2			US-PATENT-3,782,181			US-PATENT-CLASS-312-209
		US-PATENT-APPL-SN-258152			NASA-CASE-ARC-10302-1			US-PATENT-CLASS-356-197
		US-PATENT-APPL-SN-88435			US-PATENT-APPL-SN-203271			US-PATENT-CLASS-356-85
		US-PATENT-CLASS-250-211J			US-PATENT-CLASS-119-51.13			US-PATENT-3,790,347
		US-PATENT-CLASS-250-214			US-PATENT-CLASS-119-51.5			NASA-CASE-LAR-10489-1
		US-PATENT-CLASS-317-235N			US-PATENT-CLASS-119-51R			US-PATENT-APPL-SN-198763
		US-PATENT-3,781,549			US-PATENT-CLASS-119-52AF			US-PATENT-CLASS-264-102
		NASA-CASE-LAR-11155-1			US-PATENT-CLASS-119-54			US-PATENT-3,790,650
		US-PATENT-APPL-SN-313381			US-PATENT-CLASS-221-265			NASA-CASE-MFS-21309-1
		US-PATENT-CLASS-250-360			US-PATENT-3,782,334			US-PATENT-APPL-SN-244519
		US-PATENT-CLASS-250-361			NASA-CASE-GSC-11553-1			US-PATENT-CLASS-180-79.3
		US-PATENT-CLASS-250-369			US-PATENT-APPL-SN-177985			US-PATENT-CLASS-301-5P
		US-PATENT-CLASS-250-492			US-PATENT-CLASS-178-6.7R			US-PATENT-3,789,947
		US-PATENT-3,781,562			US-PATENT-CLASS-219-216			NASA-CASE-MFS-21364-1
		NASA-CASE-LAR-10862-1			US-PATENT-CLASS-219-388			US-PATENT-APPL-SN-214006
		US-PATENT-APPL-SN-271951			US-PATENT-CLASS-34-162			US-PATENT-CLASS-156-331
		US-PATENT-CLASS-73-4V			US-PATENT-CLASS-346-108			US-PATENT-CLASS-161-182
		US-PATENT-3,780,563			US-PATENT-CLASS-346-138			US-PATENT-CLASS-161-192
		NASA-CASE-ARC-10442-1			US-PATENT-CLASS-346-24			US-PATENT-CLASS-161-42
		US-PATENT-APPL-SN-280032			US-PATENT-CLASS-95-89R			US-PATENT-CLASS-161-43
		US-PATENT-CLASS-165-109			US-PATENT-3,781,902			US-PATENT-CLASS-161-93
		US-PATENT-CLASS-165-2			NASA-CASE-LAR-10595-1			US-PATENT-CLASS-260-2R
		US-PATENT-CLASS-259-DIG.18			US-PATENT-APPL-SN-273240			US-PATENT-CLASS-264-135
		US-PATENT-CLASS-259-60			US-PATENT-CLASS-340-12R			US-PATENT-CLASS-264-136
		US-PATENT-CLASS-62-45			US-PATENT-CLASS-340-5R			US-PATENT-CLASS-264-257
		US-PATENT-3,782,698			US-PATENT-CLASS-340-8R			US-PATENT-3,790,432
		NASA-CASE-NPO-13044-1			US-PATENT-3,783,443			NASA-CASE-MFS-21481-1
		US-PATENT-APPL-SN-305012			NASA-CASE-MFS-21087-1			US-PATENT-APPL-SN-266771
		US-PATENT-CLASS-73-497			US-PATENT-APPL-SN-149283			US-PATENT-CLASS-128-25R
		US-PATENT-CLASS-73-517B			US-PATENT-CLASS-350-3.5			US-PATENT-CLASS-272-73
		US-PATENT-CLASS-74-5.6			US-PATENT-3,752,556			US-PATENT-CLASS-272-80
		US-PATENT-3,782,205			NASA-CASE-MFS-20486-2			US-PATENT-CLASS-74-594.6
		NASA-CASE-MSC-14096-1			US-PATENT-APPL-SN-292382			US-PATENT-CLASS-74-594.7
		US-PATENT-APPL-SN-242662			US-PATENT-APPL-SN-84212			US-PATENT-3,788,163
		US-PATENT-CLASS-350-236			US-PATENT-CLASS-260-29.6S			NASA-CASE-LEW-11387-1
		US-PATENT-CLASS-350-285			US-PATENT-3,784,499			US-PATENT-APPL-SN-247090
		US-PATENT-CLASS-350-7			NASA-CASE-MFS-21163-1			US-PATENT-CLASS-29-482
		US-PATENT-CLASS-356-216			US-PATENT-APPL-SN-266925			US-PATENT-CLASS-29-488
		US-PATENT-CLASS-356-43			US-PATENT-CLASS-222-324			US-PATENT-CLASS-29-497
		US-PATENT-3,782,835			US-PATENT-CLASS-224-444			US-PATENT-CLASS-29-498
		NASA-CASE-XLE-10326-4			US-PATENT-3,790,037			US-PATENT-3,787,959
		US-PATENT-APPL-SN-220251			NASA-CASE-MSC-13855-1			NASA-CASE-MFS-21136-1
		US-PATENT-APPL-SN-54540			US-PATENT-APPL-SN-196931			US-PATENT-APPL-SN-262430
		US-PATENT-APPL-SN-723465			US-PATENT-CLASS-325-38B			US-PATENT-CLASS-308-10
		US-PATENT-CLASS-277-27			US-PATENT-CLASS-332-11D			US-PATENT-CLASS-74-5.7
		US-PATENT-CLASS-277-91			US-PATENT-CLASS-340-347AD			US-PATENT-3,763,708
		US-PATENT-3,782,737			US-PATENT-3,795,900			NASA-CASE-LAR-11053-1
		NASA-CASE-ARC-10441-1			NASA-CASE-NPO-13138-1			US-PATENT-APPL-SN-281875
		US-PATENT-APPL-SN-280029			US-PATENT-APPL-SN-335201			US-PATENT-CLASS-73-15R
		US-PATENT-CLASS-259-98			US-PATENT-CLASS-328-155			US-PATENT-3,789,654
		US-PATENT-CLASS-417-470			US-PATENT-CLASS-333-16			NASA-CASE-NPO-11120-1
		US-PATENT-CLASS-417-471			US-PATENT-CLASS-333-18			US-PATENT-APPL-SN-39343
		US-PATENT-3,782,699			US-PATENT-3,790,906			US-PATENT-CLASS-165-105
		NASA-CASE-NPO-11682-1			NASA-CASE-NPO-11966-1			US-PATENT-CLASS-267-166
		US-PATENT-APPL-SN-187365			NASA-CASE-NPO-13159-1			US-PATENT-CLASS-29-157.3R
		US-PATENT-CLASS-23-284			US-PATENT-APPL-SN-284245			US-PATENT-3,789,920
		US-PATENT-3,782,904			US-PATENT-CLASS-100-8			NASA-CASE-HON-10740-1
		NASA-CASE-LEW-11087-2			US-PATENT-CLASS-356-210			US-PATENT-APPL-SN-266943
		US-PATENT-APPL-SN-201904			US-PATENT-3,792,399			US-PATENT-CLASS-356-106R
		US-PATENT-APPL-SN-280390			NASA-CASE-ARC-10197-1			US-PATENT-CLASS-356-112
		US-PATENT-CLASS-29-148.4A			US-PATENT-APPL-SN-310624			US-PATENT-CLASS-356-28
		US-PATENT-CLASS-29-148.4B			US-PATENT-CLASS-317-16			US-PATENT-3,795,448
		US-PATENT-3,781,958			US-PATENT-CLASS-317-31			NASA-CASE-LAR-10426-1
		NASA-CASE-MFS-20767-1			US-PATENT-3,795,840			US-PATENT-APPL-SN-239575
		US-PATENT-APPL-SN-196898			NASA-CASE-NUC-10107-1			

					US-PATENT-CLASS-73-15.6	N74-20813*	c 32		NASA-CASE-FRC-10071-1			US-PATENT-3,797,098
					US-PATENT-CLASS-73-91				US-PATENT-APPL-SN-307727	N74-21058*	c 37	NASA-CASE-MFS-22411-1
					US-PATENT-3,795,134				US-PATENT-CLASS-178-7.7			US-PATENT-APPL-SN-382262
N74-19692*	c 44				NASA-CASE-GSC-11367-1				US-PATENT-CLASS-315-18			US-PATENT-CLASS-260-448.2N
					US-PATENT-APPL-SN-236985				US-PATENT-CLASS-315-22			US-PATENT-3,801,617
					US-PATENT-CLASS-136-36				US-PATENT-3,803,445	N74-21059*	c 31	NASA-CASE-LAR-10409-1
					US-PATENT-3,759,747	N74-20836*	c 60		NASA-CASE-ERC-10180-1			US-PATENT-APPL-SN-340864
N74-19693*	c 44				NASA-CASE-NPO-11806-1				US-PATENT-APPL-SN-838278			US-PATENT-CLASS-29-423
					US-PATENT-APPL-SN-228163				US-PATENT-CLASS-235-164			US-PATENT-3,798,741
					US-PATENT-CLASS-136-20				US-PATENT-3,803,393	N74-21060*	c 37	NASA-CASE-NPO-13105-1
					US-PATENT-CLASS-136-30				NASA-CASE-XLE-2529-3			US-PATENT-APPL-SN-283502
					US-PATENT-3,790,409	N74-20859*	c 33		US-PATENT-APPL-SN-288856			US-PATENT-CLASS-60-25
N74-19769*	c 24				NASA-CASE-ERC-10073-1				US-PATENT-APPL-SN-487929			US-PATENT-3,798,896
					US-PATENT-APPL-SN-856253				US-PATENT-CLASS-315-211	N74-21061*	c 37	NASA-CASE-LEW-11076-1
					US-PATENT-CLASS-117-95				US-PATENT-CLASS-315-228			US-PATENT-APPL-SN-238264
					US-PATENT-3,796,592				US-PATENT-CLASS-331-94.5D			US-PATENT-CLASS-308-73
N74-19788*	c 32				NASA-CASE-NPO-11820-1				US-PATENT-CLASS-332-7.51	N74-21062*	c 35	NASA-CASE-LAR-10295-1
					US-PATENT-APPL-SN-266912				US-PATENT-3,806,835			US-PATENT-APPL-SN-221685
					US-PATENT-CLASS-307-237				NASA-CASE-GSC-11446-1			US-PATENT-CLASS-73-12
					US-PATENT-CLASS-328-160	N74-20860*	c 33		US-PATENT-APPL-SN-263230			US-PATENT-CLASS-73-432
					US-PATENT-CLASS-328-168				US-PATENT-CLASS-343-DIG.2			US-PATENT-3,805,622
					US-PATENT-CLASS-328-172				US-PATENT-CLASS-343-100SA	N74-21063*	c 37	NASA-CASE-LEW-10698-1
					US-PATENT-CLASS-333-14				US-PATENT-CLASS-343-100ST			US-PATENT-APPL-SN-30498
					US-PATENT-3,800,237				US-PATENT-CLASS-343-854			US-PATENT-CLASS-106-52
N74-19790*	c 32				NASA-CASE-MFS-21540-1				US-PATENT-3,806,932			US-PATENT-CLASS-117-129
					US-PATENT-APPL-SN-333912				NASA-CASE-GSC-11560-1			US-PATENT-CLASS-161-196
					US-PATENT-CLASS-178-7.1	N74-20861*	c 33		US-PATENT-APPL-SN-361906			US-PATENT-CLASS-65-DIG.11
					US-PATENT-CLASS-325-148				US-PATENT-CLASS-350-269			US-PATENT-3,804,703
					US-PATENT-3,800,224				US-PATENT-CLASS-354-234	N74-21064*	c 37	NASA-CASE-LEW-11087-3
N74-19870*	c 44				NASA-CASE-MFS-21470-1				US-PATENT-CLASS-95-53EA			US-PATENT-APPL-SN-201904
					US-PATENT-APPL-SN-340871				US-PATENT-3,804,506			US-PATENT-APPL-SN-346361
					US-PATENT-CLASS-325-62				NASA-CASE-GSC-11513-1			US-PATENT-CLASS-308-188
					US-PATENT-CLASS-333-17	N74-20862*	c 33		US-PATENT-APPL-SN-315069			US-PATENT-CLASS-308-191
					US-PATENT-CLASS-343-17.7				US-PATENT-CLASS-331-108A			US-PATENT-CLASS-308-191
					US-PATENT-CLASS-343-7.5				US-PATENT-CLASS-331-115	N74-21065*	c 37	NASA-CASE-NPO-11951-1
					US-PATENT-3,795,910				US-PATENT-CLASS-331-116R			US-PATENT-APPL-SN-287150
N74-20008*	c 74				NASA-CASE-GSC-11188-3				US-PATENT-CLASS-331-159			US-PATENT-CLASS-137-628
					US-PATENT-APPL-SN-244566				US-PATENT-3,806,831			US-PATENT-CLASS-251-120
					US-PATENT-APPL-SN-80029				NASA-CASE-GSC-11909			US-PATENT-CLASS-251-122
					US-PATENT-CLASS-117-45	N74-20863*	c 32		US-PATENT-APPL-SN-244158			US-PATENT-CLASS-251-210
					US-PATENT-3,799,793				US-PATENT-CLASS-343-730			US-PATENT-3,802,660
N74-20009*	c 36				NASA-CASE-NPO-11861-1				US-PATENT-CLASS-343-786	N74-21091*	c 36	NASA-CASE-GSC-11262-1
					US-PATENT-APPL-SN-266911				US-PATENT-CLASS-343-797			US-PATENT-APPL-SN-162380
					US-PATENT-CLASS-178-DIG.1				US-PATENT-CLASS-343-853			US-PATENT-CLASS-250-204
					US-PATENT-CLASS-178-6				US-PATENT-3,803,617			US-PATENT-CLASS-33-285
					US-PATENT-CLASS-178-7.6	N74-20864*	c 32		NASA-CASE-GSC-11428-1			US-PATENT-CLASS-356-141
					US-PATENT-3,800,074				US-PATENT-APPL-SN-292685			US-PATENT-CLASS-356-152
N74-20063*	c 37				NASA-CASE-LAR-10129-2				US-PATENT-CLASS-343-708			US-PATENT-CLASS-356-172
					US-PATENT-APPL-SN-319410				US-PATENT-CLASS-343-769			US-PATENT-3,804,525
					US-PATENT-APPL-SN-99201				US-PATENT-CLASS-343-853	N74-21156*	c 27	NASA-CASE-ARC-10592-1
					US-PATENT-CLASS-312-1				US-PATENT-3,805,266			US-PATENT-APPL-SN-321179
					US-PATENT-3,796,473	N74-21014*	c 71		NASA-CASE-HON-10832-1			US-PATENT-CLASS-260-46.5E
N74-20329*	c 76				NASA-CASE-GSC-11425-1				US-PATENT-APPL-SN-301417			US-PATENT-3,803,090
					US-PATENT-APPL-SN-206266				US-PATENT-CLASS-178-DIG.32	N74-21300*	c 70	NASA-CASE-ARC-10516-1
					US-PATENT-CLASS-148-1.5				US-PATENT-CLASS-178-5.8R			US-PATENT-APPL-SN-267768
					US-PATENT-3,799,813				US-PATENT-CLASS-178-7.2			US-PATENT-CLASS-350-270
N74-20646*	c 02				NASA-CASE-LEW-11188-1				US-PATENT-CLASS-340-407			US-PATENT-CLASS-354-234
					US-PATENT-APPL-SN-152328				US-PATENT-CLASS-35-35A			US-PATENT-3,797,919
					US-PATENT-CLASS-137-15.1				US-PATENT-3,800,082	N74-21304*	c 74	NASA-CASE-GSC-11353-1
					US-PATENT-CLASS-137-15.2				NASA-CASE-LAR-10626-1			US-PATENT-APPL-SN-260241
					US-PATENT-CLASS-244-53B	N74-21015*	c 19		US-PATENT-APPL-SN-202750			US-PATENT-CLASS-250-231SE
					US-PATENT-3,799,475				US-PATENT-CLASS-33-15A			US-PATENT-CLASS-350-299
N74-20725*	c 54				NASA-CASE-MFS-22102-1				US-PATENT-CLASS-33-46R			US-PATENT-CLASS-356-152
					US-PATENT-APPL-SN-341621				US-PATENT-3,798,778			US-PATENT-3,802,779
					US-PATENT-CLASS-4-10				NASA-CASE-MFS-21660-1	N74-21850*	c 33	NASA-CASE-GSC-11602-1
					US-PATENT-CLASS-4-120				US-PATENT-APPL-SN-310616			US-PATENT-APPL-SN-298157
					US-PATENT-3,805,303				US-PATENT-CLASS-324-83Q			US-PATENT-CLASS-315-10
N74-20726*	c 52				NASA-CASE-ARC-10597-1				US-PATENT-3,806,802			US-PATENT-CLASS-315-11
					US-PATENT-APPL-SN-281876				NASA-CASE-LEW-10981-1			US-PATENT-CLASS-315-12
					US-PATENT-CLASS-128-2V	N74-21018*	c 35		US-PATENT-APPL-SN-214089			US-PATENT-3,806,756
					US-PATENT-CLASS-73-67.9				US-PATENT-CLASS-310-11	N74-21851*	c 33	NASA-CASE-ARC-10596-1
					US-PATENT-3,802,253				US-PATENT-CLASS-324-34FL			US-PATENT-APPL-SN-267862
N74-20728*	c 52				NASA-CASE-MFS-21415-1				US-PATENT-CLASS-73-194EM			US-PATENT-CLASS-330-28
					US-PATENT-APPL-SN-318152				US-PATENT-3,802,262			US-PATENT-CLASS-330-59
					US-PATENT-CLASS-128-2.07				NASA-CASE-GSC-11600-1			US-PATENT-3,811,094
					US-PATENT-CLASS-128-2.08	N74-21019*	c 35		US-PATENT-APPL-SN-318357			NASA-CASE-NPO-10617-1
					US-PATENT-CLASS-73-23				US-PATENT-CLASS-73-1F	N74-22095*	c 35	US-PATENT-APPL-SN-828920
					US-PATENT-CLASS-73-421.5R				US-PATENT-3,802,249			US-PATENT-CLASS-73-190H
					US-PATENT-3,799,149				NASA-CASE-LEW-11388-2			US-PATENT-3,648,516
N74-20809*	c 32				NASA-CASE-MSC-12462-1				US-PATENT-APPL-SN-289033	N74-22096*	c 32	NASA-CASE-XLE-04791
					US-PATENT-APPL-SN-274360				US-PATENT-APPL-SN-293726			US-PATENT-APPL-SN-582213
					US-PATENT-CLASS-178-88				US-PATENT-CLASS-29-487			US-PATENT-CLASS-330-103
					US-PATENT-CLASS-325-320				US-PATENT-CLASS-29-494			US-PATENT-3,404,348
					US-PATENT-CLASS-325-423				US-PATENT-CLASS-29-498	N74-22136*	c 18	NASA-CASE-MFS-20922-1
					US-PATENT-3,800,227				US-PATENT-CLASS-29-504			US-PATENT-APPL-SN-220274
N74-20810*	c 32				NASA-CASE-MSC-12494-1				US-PATENT-3,798,748			US-PATENT-CLASS-244-15S
					US-PATENT-APPL-SN-304705				NASA-CASE-LAR-10688-1			US-PATENT-CLASS-49-68
					US-PATENT-CLASS-325-321				US-PATENT-APPL-SN-285705			US-PATENT-CLASS-61-83
					US-PATENT-CLASS-325-419				US-PATENT-CLASS-235-151			US-PATENT-3,807,656
					US-PATENT-3,806,816	N74-21056*	c 37		US-PATENT-CLASS-235-92PE	N74-22771*	c 52	NASA-CASE-ARC-10447-1
N74-20811*	c 32				NASA-CASE-NPO-13103-1				US-PATENT-CLASS-235-92SB			US-PATENT-APPL-SN-311175
					US-PATENT-APPL-SN-338484				US-PATENT-3,800,253			US-PATENT-CLASS-128-214E
					US-PATENT-CLASS-325-320				NASA-CASE-LAR-10941-1			US-PATENT-CLASS-235-151.3
					US-PATENT-CLASS-325-419				US-PATENT-APPL-SN-289048			US-PATENT-3,809,871
					US-PATENT-CLASS-329-122	N74-21057*	c 37		US-PATENT-CLASS-29-470.1	N74-22814*	c 33	NASA-CASE-NPO-13081-1
					US-PATENT-3,806,815							

				US-PATENT-APPL-SN-345372				US-PATENT-CLASS-178-67				US-PATENT-APPL-SN-326327
				US-PATENT-CLASS-307-215				US-PATENT-CLASS-325-30				US-PATENT-CLASS-136-182
				US-PATENT-CLASS-307-243				US-PATENT-3,816,657				US-PATENT-CLASS-324-29.5
				US-PATENT-CLASS-307-290		N74-26732*	c 33	NASA-CASE-MFS-21698-1		N74-27566*	c 52	US-PATENT-CLASS-324-72.5
				US-PATENT-CLASS-328-154				US-PATENT-APPL-SN-37050				US-PATENT-3,818,325
N74-22864*	c 33			US-PATENT-3,808,464				US-PATENT-CLASS-331-109				NASA-CASE-GSC-11531-1
				NASA-CASE-XER-11046-2				US-PATENT-CLASS-331-117R				US-PATENT-APPL-SN-291845
				US-PATENT-APPL-SN-810579				US-PATENT-CLASS-331-183				US-PATENT-CLASS-128-2.05E
				US-PATENT-APPL-SN-87597				US-PATENT-3,815,048				US-PATENT-CLASS-73-398AR
				US-PATENT-CLASS-321-45R		N74-26767*	c 73	NASA-CASE-NPO-13112-1		N74-27612*	c 32	US-PATENT-3,811,429
				US-PATENT-3,808,511				US-PATENT-APPL-SN-267572				NASA-CASE-MSC-14219-1
N74-22865*	c 33			NASA-CASE-LAR-10168-1				US-PATENT-CLASS-250-499				US-PATENT-APPL-SN-324029
				US-PATENT-APPL-SN-354407				US-PATENT-CLASS-313-61S				US-PATENT-CLASS-117-2R
				US-PATENT-CLASS-174-DIG.8				US-PATENT-3,816,785				US-PATENT-CLASS-156-9A
				US-PATENT-CLASS-174-69		N74-26945*	c 35	NASA-CASE-MFS-21556-1				US-PATENT-CLASS-179-100.2A
				US-PATENT-CLASS-174-70R				US-PATENT-APPL-SN-340791				US-PATENT-CLASS-179-100.2B
				US-PATENT-CLASS-244-151R				US-PATENT-CLASS-177-200				US-PATENT-CLASS-264-36
				US-PATENT-3,809,800				US-PATENT-CLASS-177-211				US-PATENT-3,819,440
N74-22885*	c 33			NASA-CASE-MFS-21671-1				US-PATENT-CLASS-177-246		N74-27682*	c 33	US-PATENT-3,821,546
				US-PATENT-APPL-SN-329958				US-PATENT-CLASS-73-141A				NASA-CASE-ARC-10593-1
				US-PATENT-CLASS-323-106				US-PATENT-3,812,924				US-PATENT-APPL-SN-310193
				US-PATENT-CLASS-323-122		N74-26946*	c 35	NASA-CASE-MFS-22040-1				US-PATENT-CLASS-250-207
				US-PATENT-CLASS-323-128				US-PATENT-APPL-SN-365644				US-PATENT-CLASS-307-252Q
				US-PATENT-3,808,517				US-PATENT-CLASS-350-3.5				US-PATENT-3,821,546
N74-23039*	c 34			NASA-CASE-GSC-11620-1				US-PATENT-CLASS-96-38.3		N74-27683*	c 33	NASA-CASE-LEW-10950-1
				US-PATENT-APPL-SN-280305				US-PATENT-CLASS-96-79				US-PATENT-APPL-SN-273222
				US-PATENT-CLASS-126-270				US-PATENT-3,815,969				US-PATENT-CLASS-174-111
				US-PATENT-CLASS-244-127		N74-26947*	c 25	NASA-CASE-ARC-10633-1				US-PATENT-CLASS-174-15C
				US-PATENT-CLASS-244-31				US-PATENT-APPL-SN-354611				US-PATENT-CLASS-174-28
				US-PATENT-3,807,384				US-PATENT-CLASS-250-304				US-PATENT-CLASS-310-4R
N74-23040*	c 35			NASA-CASE-NPO-11932-1				US-PATENT-CLASS-250-343				US-PATENT-3,821,462
				NASA-CASE-NPO-13127-1				US-PATENT-CLASS-250-373		N74-27705*	c 33	NASA-CASE-MSC-14066-1
				US-PATENT-APPL-SN-311234				US-PATENT-3,814,939				US-PATENT-APPL-SN-297127
				US-PATENT-CLASS-356-1065		N74-26948*	c 25	NASA-CASE-MFS-21395-1				US-PATENT-CLASS-178-88
				US-PATENT-CLASS-356-113				US-PATENT-APPL-SN-260093				US-PATENT-CLASS-325-320
				US-PATENT-3,809,481				US-PATENT-CLASS-204-180R				US-PATENT-3,818,346
N74-23064*	c 37			NASA-CASE-LAR-10900-1				US-PATENT-3,814,678		N74-27730*	c 34	NASA-CASE-MFS-21424-1
				US-PATENT-APPL-SN-290021				NASA-CASE-GSC-11492-1				US-PATENT-APPL-SN-315048
				US-PATENT-CLASS-161-116		N74-26949*	c 35	US-PATENT-APPL-SN-372148				US-PATENT-CLASS-73-147
				US-PATENT-3,809,601				US-PATENT-CLASS-250-374				US-PATENT-CLASS-73-3
N74-23065*	c 31			NASA-CASE-NPO-11758-1				US-PATENT-CLASS-250-385				US-PATENT-3,817,082
				US-PATENT-APPL-SN-266913				US-PATENT-CLASS-313-93		N74-27744*	c 34	NASA-CASE-MFS-21394-1
				US-PATENT-CLASS-204-222				US-PATENT-3,812,358				US-PATENT-APPL-SN-258171
				US-PATENT-3,810,829		N74-26976*	c 37	NASA-CASE-MFS-21846-1				US-PATENT-CLASS-204-180R
N74-23066*	c 34			NASA-CASE-LAR-10089-1				US-PATENT-APPL-SN-359958				US-PATENT-CLASS-204-299
				US-PATENT-APPL-SN-305638				US-PATENT-CLASS-188-163				US-PATENT-3,821,102
				US-PATENT-CLASS-240-47				US-PATENT-CLASS-188-171		N74-27859*	c 34	NASA-CASE-GSC-11434-1
				US-PATENT-CLASS-353-54				US-PATENT-3,812,936				US-PATENT-APPL-SN-263498
				US-PATENT-CLASS-353-61		N74-26977*	c 33	NASA-CASE-MFS-22133-1				US-PATENT-CLASS-73-190R
				US-PATENT-3,811,044				US-PATENT-APPL-SN-337487				US-PATENT-3,813,937
N74-23068*	c 46			NASA-CASE-XNP-10007-1				US-PATENT-CLASS-29-203MW		N74-27860*	c 35	NASA-CASE-MSC-14081-1
				US-PATENT-APPL-SN-611414				US-PATENT-3,815,205				US-PATENT-APPL-SN-331760
				US-PATENT-APPL-SN-768942		N74-27035*	c 24	NASA-CASE-XLA-11028-1				US-PATENT-CLASS-250-576
				US-PATENT-CLASS-299-67				US-PATENT-APPL-SN-219435				US-PATENT-CLASS-356-180
				US-PATENT-3,606,470				US-PATENT-CLASS-156-285				US-PATENT-CLASS-356-246
N74-23069*	c 46			NASA-CASE-XNP-09755				US-PATENT-3,814,653		N74-27861*	c 34	US-PATENT-3,817,627
				US-PATENT-APPL-SN-611414				NASA-CASE-ARC-10304-2				NASA-CASE-MFS-21108-1
				US-PATENT-APPL-SN-857241		N74-27037*	c 27	US-PATENT-APPL-SN-140946				US-PATENT-APPL-SN-307728
				US-PATENT-CLASS-125-1				US-PATENT-APPL-SN-318358				US-PATENT-CLASS-136-213
				US-PATENT-CLASS-125-3				US-PATENT-CLASS-102-105				US-PATENT-CLASS-136-230
				US-PATENT-CLASS-299-86				US-PATENT-CLASS-106-15FP				US-PATENT-CLASS-136-233
				US-PATENT-CLASS-51-283				US-PATENT-CLASS-252-62				US-PATENT-3,819,419
				US-PATENT-3,612,030				US-PATENT-CLASS-252-8.1		N74-27862*	c 33	NASA-CASE-KSC-10731-1
N74-23070*	c 37			NASA-CASE-MFS-20645-1				US-PATENT-CLASS-260-DIG.24				US-PATENT-APPL-SN-288847
				US-PATENT-APPL-SN-103091				US-PATENT-CLASS-260-2.5FP				US-PATENT-CLASS-324-72
				US-PATENT-CLASS-74-217R				US-PATENT-CLASS-260-2.5R				US-PATENT-CLASS-340-151
				US-PATENT-3,678,771				US-PATENT-CLASS-260-2R				US-PATENT-CLASS-340-182
N74-23125*	c 27			NASA-CASE-LEW-10199-1				US-PATENT-CLASS-260-396N				US-PATENT-CLASS-340-200
				US-PATENT-APPL-SN-651972				US-PATENT-3,819,550				US-PATENT-CLASS-73-170R
				US-PATENT-CLASS-117-126GR				NASA-CASE-LAR-10670-2				US-PATENT-3,820,095
				US-PATENT-CLASS-117-132B		N74-27360*	c 15	US-PATENT-APPL-SN-248761		N74-27864*	c 52	NASA-CASE-MFS-21049-1
				US-PATENT-CLASS-117-161UN				US-PATENT-APPL-SN-59892				US-PATENT-APPL-SN-304430
				US-PATENT-CLASS-260-78TF				US-PATENT-CLASS-102-90				US-PATENT-CLASS-128-2S
				US-PATENT-3,647,529				US-PATENT-CLASS-60-214				US-PATENT-CLASS-338-114
N74-25968*	c 37			NASA-CASE-MFS-21485-1				US-PATENT-CLASS-60-215				US-PATENT-CLASS-338-5
				US-PATENT-APPL-SN-277436				US-PATENT-CLASS-60-39.46				US-PATENT-CLASS-73-88.5R
				US-PATENT-CLASS-408-111				US-PATENT-3,813,875				US-PATENT-3,820,529
				US-PATENT-CLASS-408-80		N74-27397*	c 18	NASA-CASE-MFS-21680-1		N74-27865*	c 35	NASA-CASE-MFS-21728-1
				US-PATENT-CLASS-90-12.5				NASA-CASE-MFS-21681-1				US-PATENT-APPL-SN-361907
				US-PATENT-3,813,183				US-PATENT-APPL-SN-343607				US-PATENT-CLASS-73-141A
N74-26625*	c 52			NASA-CASE-NPO-13065-1				US-PATENT-CLASS-244-1SS				US-PATENT-3,820,388
				US-PATENT-APPL-SN-269073				US-PATENT-CLASS-248-16		N74-27866*	c 74	NASA-CASE-MFS-21372-1
				US-PATENT-CLASS-128-2.1A				US-PATENT-CLASS-248-23				US-PATENT-APPL-SN-226477
				US-PATENT-CLASS-325-113				US-PATENT-3,814,350				US-PATENT-CLASS-250-505
				US-PATENT-CLASS-325-141		N74-27425*	c 28	NASA-CASE-NPO-11743-1				US-PATENT-CLASS-250-511
				US-PATENT-CLASS-340-183				US-PATENT-APPL-SN-277904				US-PATENT-3,821,556
				US-PATENT-CLASS-340-203				US-PATENT-CLASS-102-28EB		N74-27900*	c 31	NASA-CASE-LAR-10841-1
				US-PATENT-CLASS-340-207R				US-PATENT-CLASS-102-70.2A				US-PATENT-APPL-SN-307729
				US-PATENT-3,815,109				US-PATENT-CLASS-102-70-2R				US-PATENT-CLASS-13-31
N74-26626*	c 52			NASA-CASE-MSC-13999-1				US-PATENT-3,812,783				US-PATENT-CLASS-73-15R
				US-PATENT-APPL-SN-256317		N74-27490*	c 07	NASA-CASE-LEW-11286-1				US-PATENT-3,817,084
				US-PATENT-CLASS-128-2.05A				US-PATENT-APPL-SN-339806		N74-27901*	c 37	NASA-CASE-ARC-10462-1
				US-PATENT-CLASS-128-2.05S				US-PATENT-CLASS-181-33HB				US-PATENT-APPL-SN-310615
				US-PATENT-3,814,083				US-PATENT-CLASS-239-265.17				US-PATENT-CLASS-74-675
N74-26654*	c 32			NASA-CASE-MSC-14065-1				US-PATENT-3,820,630				US-PATENT-CLASS-74-710
				US-PATENT-APPL-SN-297128		N74-27519*	c 44	NASA-CASE-MFS-20761-1				US-PATENT-3,818,775

N74-27902*	c 31	NASA-CASE-GSC-11445-1 US-PATENT-APPL-SN-248471 US-PATENT-CLASS-236-49 US-PATENT-CLASS-98-39 US-PATENT-3,818,814	N74-31269*	c 20	US-PATENT-3,827,288 NASA-CASE-LEW-11646-1 US-PATENT-APPL-SN-292686 US-PATENT-CLASS-204-192 US-PATENT-3,826,729	N74-33218*	c 07	US-PATENT-CLASS-149-60 US-PATENT-CLASS-149-76 US-PATENT-3,830,673 NASA-CASE-ARC-10712-1 US-PATENT-APPL-SN-344410 US-PATENT-CLASS-181-33HC US-PATENT-CLASS-239-265,11 US-PATENT-3,830,431
N74-27903*	c 37	NASA-CASE-MS-12549-1 US-PATENT-APPL-SN-301039 US-PATENT-CLASS-244-1SD US-PATENT-3,820,741	N74-31270*	c 07	NASA-CASE-LAR-10642-1 US-PATENT-APPL-SN-266820 US-PATENT-CLASS-137-15.1 US-PATENT-CLASS-415-181 US-PATENT-3,829,237	N74-33378*	c 25	NASA-CASE-MFS-21675-1 US-PATENT-APPL-SN-392823 US-PATENT-CLASS-23-277C US-PATENT-CLASS-431-202 US-PATENT-3,833,336
N74-27904*	c 37	NASA-CASE-LEW-11672-1 US-PATENT-APPL-SN-305639 US-PATENT-CLASS-417-52 US-PATENT-3,819,299	N74-32418*	c 07	NASA-CASE-LAR-11141-1 US-PATENT-APPL-SN-359957 US-PATENT-CLASS-181-33C US-PATENT-CLASS-181-33F US-PATENT-CLASS-181-33H US-PATENT-CLASS-181-33L US-PATENT-CLASS-181-42 US-PATENT-3,830,335	N74-33379*	c 44	NASA-CASE-ARC-10461-1 US-PATENT-APPL-SN-336319 US-PATENT-CLASS-60-527 US-PATENT-3,830,060
N74-27905*	c 37	NASA-CASE-LAR-10450-1 US-PATENT-APPL-SN-289017 US-PATENT-CLASS-51-225 US-PATENT-CLASS-51-234 US-PATENT-CLASS-51-97R US-PATENT-3,820,286	N74-32546*	c 54	NASA-CASE-MS-11072 US-PATENT-APPL-SN-689455 US-PATENT-CLASS-156-218 US-PATENT-CLASS-2-2.1A US-PATENT-CLASS-2-82 US-PATENT-3,832,735	N74-34638*	c 33	NASA-CASE-MFS-22343-1 US-PATENT-APPL-SN-329237 US-PATENT-CLASS-307-18 US-PATENT-CLASS-307-295 US-PATENT-CLASS-307-304 US-PATENT-CLASS-307-35 US-PATENT-3,840,829
N74-28097*	c 35	NASA-CASE-GSC-11479-1 US-PATENT-APPL-SN-293739 US-PATENT-CLASS-244-1SA US-PATENT-CLASS-74-5.5 US-PATENT-3,818,767	N74-32598*	c 32	NASA-CASE-MS-14070-1 US-PATENT-APPL-SN-266940 US-PATENT-CLASS-340-146,1A US-PATENT-3,831,142	N74-34672*	c 85	NASA-CASE-LAR-10256-1 US-PATENT-APPL-SN-220785 US-PATENT-CLASS-104-133R US-PATENT-CLASS-104-23FS US-PATENT-CLASS-238-134 US-PATENT-3,837,285
N74-28226*	c 07	NASA-CASE-LEW-11402-1 US-PATENT-APPL-SN-219806 US-PATENT-CLASS-415-181 US-PATENT-CLASS-416-223 US-PATENT-CLASS-416-237 US-PATENT-3,820,918	N74-32660*	c 33	NASA-CASE-GSC-11617-1 US-PATENT-APPL-SN-402865 US-PATENT-CLASS-330-4.9 US-PATENT-CLASS-330-53 US-PATENT-3,833,857	N74-34857*	c 35	NASA-CASE-LAR-11428-1 US-PATENT-APPL-SN-188836 US-PATENT-APPL-SN-357126 US-PATENT-CLASS-250-281 US-PATENT-CLASS-250-295 US-PATENT-3,835,318
N74-29410*	c 19	NASA-CASE-MFS-21577-1 US-PATENT-APPL-SN-343308 US-PATENT-CLASS-250-372 US-PATENT-CLASS-250-394 US-PATENT-3,825,760	N74-32711*	c 33	NASA-CASE-MS-14130-1 US-PATENT-APPL-SN-373587 US-PATENT-CLASS-307-267 US-PATENT-CLASS-328-58 US-PATENT-3,831,098	N75-12086*	c 25	NASA-CASE-ARC-10469-1 US-PATENT-APPL-SN-281908 US-PATENT-CLASS-195-103.5R US-PATENT-3,846,243
N74-29556*	c 33	NASA-CASE-KSC-10769-1 US-PATENT-APPL-SN-374583 US-PATENT-CLASS-318-602 US-PATENT-CLASS-318-603 US-PATENT-CLASS-318-664 US-PATENT-3,826,964	N74-32712*	c 33	NASA-CASE-NPO-11948-1 US-PATENT-APPL-SN-306652 US-PATENT-CLASS-307-230 US-PATENT-CLASS-330-69 US-PATENT-CLASS-333-80R US-PATENT-3,831,117	N75-12087*	c 25	NASA-CASE-ARC-10643-1 US-PATENT-APPL-SN-513389 US-PATENT-CLASS-117-161UA US-PATENT-CLASS-117-161UN US-PATENT-CLASS-117-161UZ US-PATENT-CLASS-117-93.1GD US-PATENT-CLASS-204-177 US-PATENT-CLASS-210-500 US-PATENT-CLASS-264-217 US-PATENT-CLASS-264-22 US-PATENT-3,847,652
N74-30001*	c 24	NASA-CASE-LAR-10416-1 US-PATENT-APPL-SN-251752 US-PATENT-CLASS-156-94 US-PATENT-3,814,645	N74-32877*	c 35	NASA-CASE-LAR-10806-1 US-PATENT-APPL-SN-322998 US-PATENT-CLASS-33-1M US-PATENT-CLASS-33-23R US-PATENT-CLASS-338-89 US-PATENT-CLASS-340-347AD US-PATENT-CLASS-346-33R US-PATENT-3,832,781	N75-12161*	c 31	NASA-CASE-MFS-20775-1 US-PATENT-APPL-SN-356664 US-PATENT-CLASS-118-49.1 US-PATENT-3,847,115
N74-30156*	c 75	NASA-CASE-ARC-10598-1 US-PATENT-APPL-SN-318151 US-PATENT-CLASS-356-201 US-PATENT-CLASS-356-43 US-PATENT-CLASS-356-73 US-PATENT-CLASS-356-85 US-PATENT-CLASS-356-87 US-PATENT-3,817,622	N74-32878*	c 35	NASA-CASE-LAR-11139-1 US-PATENT-APPL-SN-287149 US-PATENT-CLASS-73-182 US-PATENT-CLASS-73-388 US-PATENT-3,832,903	N75-12222*	c 34	NASA-CASE-GSC-11619-1 US-PATENT-APPL-SN-397476 US-PATENT-CLASS-138-113 US-PATENT-CLASS-138-114 US-PATENT-CLASS-138-148 US-PATENT-CLASS-165-1 US-PATENT-CLASS-165-105 US-PATENT-CLASS-165-47 US-PATENT-CLASS-220-15 US-PATENT-CLASS-244-1SC US-PATENT-3,847,208
N74-30421*	c 08	NASA-CASE-LAR-10753-1 US-PATENT-APPL-SN-289018 US-PATENT-CLASS-244-327 US-PATENT-CLASS-244-90R US-PATENT-CLASS-244-91 US-PATENT-3,826,448	N74-32879*	c 35	NASA-CASE-MS-14187-1 US-PATENT-APPL-SN-326326 US-PATENT-CLASS-23-230L US-PATENT-CLASS-73-104 US-PATENT-CLASS-73-15.4 US-PATENT-CLASS-73-40.7 US-PATENT-3,830,094	N75-12270*	c 35	NASA-CASE-KSC-10750-1 US-PATENT-APPL-SN-346372 US-PATENT-CLASS-324-158T US-PATENT-CLASS-324-60C US-PATENT-3,848,190
N74-30502*	c 25	NASA-CASE-LEW-10906-1 US-PATENT-APPL-SN-245279 US-PATENT-APPL-SN-876588 US-PATENT-CLASS-204-157.1H US-PATENT-3,826,726	N74-32917*	c 31	NASA-CASE-NPO-13205-1 US-PATENT-APPL-SN-393525 US-PATENT-CLASS-425-28B US-PATENT-CLASS-425-35 US-PATENT-3,833,322	N75-12271*	c 35	NASA-CASE-MFS-20994-1 US-PATENT-APPL-SN-386789 US-PATENT-CLASS-128-2V US-PATENT-CLASS-73-67.1 US-PATENT-3,847,141
N74-30523*	c 32	NASA-CASE-NPO-11921-1 US-PATENT-APPL-SN-359039 US-PATENT-CLASS-179-15BC US-PATENT-CLASS-325-346 US-PATENT-3,828,138	N74-32918*	c 37	NASA-CASE-NPO-13157-1 US-PATENT-APPL-SN-370872 US-PATENT-CLASS-29-203H US-PATENT-CLASS-29-268 US-PATENT-3,832,764	N75-12272*	c 35	NASA-CASE-LAR-11069-1 US-PATENT-APPL-SN-326198 US-PATENT-CLASS-195-127 US-PATENT-3,841,973
N74-30524*	c 32	NASA-CASE-MS-13912-1 US-PATENT-APPL-SN-310034 US-PATENT-CLASS-179-15AT US-PATENT-CLASS-179-15BY US-PATENT-3,828,137	N74-32919*	c 20	NASA-CASE-LEW-11118-1 US-PATENT-APPL-SN-289050 US-PATENT-CLASS-204-9 US-PATENT-3,832,290	N75-12273*	c 35	NASA-CASE-MFS-20506-1 US-PATENT-APPL-SN-328792 US-PATENT-CLASS-33-DIG.13 US-PATENT-CLASS-33-180R US-PATENT-CLASS-350-292 US-PATENT-3,842,509
N74-30597*	c 09	NASA-CASE-LAR-10550-1 US-PATENT-APPL-SN-261183 US-PATENT-CLASS-35-12E US-PATENT-3,824,707	N74-32920*	c 31	NASA-CASE-LAR-10489-2 US-PATENT-APPL-SN-198763 US-PATENT-APPL-SN-350300 US-PATENT-CLASS-249-145 US-PATENT-CLASS-249-184 US-PATENT-CLASS-249-83 US-PATENT-CLASS-249-95 US-PATENT-CLASS-425-128 US-PATENT-CLASS-425-415 US-PATENT-3,830,609	N75-12326*	c 37	NASA-CASE-LAR-11211-1 US-PATENT-APPL-SN-302681 US-PATENT-CLASS-29-470.1 US-PATENT-CLASS-29-475 US-PATENT-3,842,485
N74-30608*	c 34	NASA-CASE-LAR-10194-1 US-PATENT-APPL-SN-169962 US-PATENT-CLASS-55-159 US-PATENT-CLASS-55-199 US-PATENT-CLASS-55-43 US-PATENT-3,828,524	N74-32921*	c 37	NASA-CASE-LEW-11076-2 US-PATENT-APPL-SN-238264 US-PATENT-APPL-SN-346483 US-PATENT-CLASS-308-121 US-PATENT-3,830,552	N75-12616*	c 54	NASA-CASE-MFS-21611-1 US-PATENT-APPL-SN-403694 US-PATENT-CLASS-214-1CM US-PATENT-CLASS-307-149 US-PATENT-CLASS-308-174
N74-30886*	c 89	NASA-CASE-GSC-11569-1 US-PATENT-APPL-SN-293725 US-PATENT-CLASS-250-203R US-PATENT-CLASS-33-268 US-PATENT-CLASS-356-141 US-PATENT-CLASS-356-147 US-PATENT-3,827,807	N74-33209*	c 28	NASA-CASE-NPO-11975-1 US-PATENT-APPL-SN-329243 US-PATENT-CLASS-149-17			
N74-31148*	c 71	NASA-CASE-NPO-11623-1 US-PATENT-APPL-SN-235338 US-PATENT-CLASS-181.5R US-PATENT-CLASS-73-69 US-PATENT-CLASS-73-71.5R						

N75-12732*	c 74	US-PATENT-3,849,668 NASA-CASE-ARC-10448-2 US-PATENT-APPL-SN-374424 US-PATENT-CLASS-156-16 US-PATENT-CLASS-156-18 US-PATENT-CLASS-156-7 US-PATENT-CLASS-250-495 US-PATENT-3,847,689	N75-13539*	c 60	US-PATENT-3,850,169 NASA-CASE-ARC-10466-1 US-PATENT-APPL-SN-352382 US-PATENT-CLASS-235-156 US-PATENT-CLASS-235-197 US-PATENT-CLASS-324-77B US-PATENT-3,851,162	US-PATENT-CLASS-117-93.3 US-PATENT-CLASS-156-89 US-PATENT-CLASS-156-99 US-PATENT-CLASS-29-472.7 US-PATENT-CLASS-29-473.1 US-PATENT-CLASS-65-43 US-PATENT-3,859,714		
N75-12810*	c 76	US-PATENT-3,847,689 NASA-CASE-LAR-11059-1 US-PATENT-APPL-SN-367294 US-PATENT-CLASS-73-32R US-PATENT-CLASS-73-432PS US-PATENT-3,842,656	N75-13625*	c 75	NASA-CASE-MFS-22145-1 US-PATENT-APPL-SN-367606 US-PATENT-CLASS-176-3 US-PATENT-CLASS-313-63 US-PATENT-CLASS-315-111 US-PATENT-CLASS-328-233 US-PATENT-3,854,097	N75-16783*	c 35	NASA-CASE-ARC-10637-1 US-PATENT-APPL-SN-352383 US-PATENT-CLASS-356-28 US-PATENT-3,860,342
N75-12930*	c 05	NASA-CASE-ARC-10456-1 US-PATENT-APPL-SN-237491 US-PATENT-CLASS-244-75R US-PATENT-CLASS-244-83R US-PATENT-CLASS-416-25 US-PATENT-CLASS-74-480R US-PATENT-3,850,388	N75-14834*	c 23	NASA-CASE-MSC-13530-2 US-PATENT-APPL-SN-177771 US-PATENT-APPL-SN-69488 US-PATENT-CLASS-106-13 US-PATENT-CLASS-106-15R US-PATENT-CLASS-106-287SB US-PATENT-CLASS-117-124F US-PATENT-CLASS-117-135.5 US-PATENT-CLASS-252-549 US-PATENT-CLASS-252-70	N75-18310*	c 20	NASA-CASE-LEW-11694-1 US-PATENT-APPL-SN-352381 US-PATENT-CLASS-29-25.18 US-PATENT-CLASS-72-63 US-PATENT-3,864,797
N75-12968*	c 09	NASA-CASE-MFS-22039-1 US-PATENT-APPL-SN-386790 US-PATENT-CLASS-108-136 US-PATENT-3,853,075	N75-14844*	c 25	NASA-CASE-MSC-13530-2 US-PATENT-APPL-SN-177771 US-PATENT-APPL-SN-69488 US-PATENT-CLASS-106-13 US-PATENT-CLASS-106-15R US-PATENT-CLASS-106-287SB US-PATENT-CLASS-117-124F US-PATENT-CLASS-117-135.5 US-PATENT-CLASS-252-549 US-PATENT-CLASS-252-70	N75-18477*	c 33	NASA-CASE-MFS-22129-1 US-PATENT-APPL-SN-370255 US-PATENT-CLASS-324-32 US-PATENT-CLASS-324-54 US-PATENT-3,866,114
N75-12969*	c 09	NASA-CASE-ARC-10710-1 US-PATENT-APPL-SN-379019 US-PATENT-CLASS-73-147 US-PATENT-3,853,003	N75-14957*	c 33	NASA-CASE-MSC-14240-1 US-PATENT-APPL-SN-351929 US-PATENT-CLASS-307-205 US-PATENT-CLASS-307-208 US-PATENT-3,857,045	N75-18479*	c 33	NASA-CASE-MSC-14129-1 US-PATENT-APPL-SN-362146 US-PATENT-CLASS-307-229 US-PATENT-CLASS-307-235R US-PATENT-CLASS-307-267 US-PATENT-CLASS-328-115 US-PATENT-CLASS-328-151 US-PATENT-CLASS-328-58 US-PATENT-3,869,624
N75-13007*	c 15	NASA-CASE-GSC-11182-1 US-PATENT-APPL-SN-393527 US-PATENT-CLASS-325-4 US-PATENT-3,851,250	N75-15014*	c 35	NASA-CASE-NPO-12130-1 US-PATENT-APPL-SN-750235 US-PATENT-CLASS-23-230B US-PATENT-CLASS-23-253R US-PATENT-3,856,471	N75-18573*	c 37	NASA-CASE-NPO-13253-1 US-PATENT-APPL-SN-395687 US-PATENT-CLASS-248-358R US-PATENT-3,863,881
N75-13032*	c 24	NASA-CASE-LAR-10994-1 US-PATENT-APPL-SN-390466 US-PATENT-CLASS-29-420 US-PATENT-CLASS-29-604 US-PATENT-CLASS-340-174MA US-PATENT-CLASS-75-200 US-PATENT-3,849,877	N75-15028*	c 36	NASA-CASE-LAR-11213-1 US-PATENT-APPL-SN-406715 US-PATENT-CLASS-250-201 US-PATENT-CLASS-356-4 US-PATENT-3,857,031	N75-18574*	c 37	NASA-CASE-GSC-11079-1 US-PATENT-APPL-SN-100637 US-PATENT-CLASS-308-10 US-PATENT-3,865,442
N75-13111*	c 31	NASA-CASE-LAR-10782-2 US-PATENT-APPL-SN-197689 US-PATENT-APPL-SN-379049 US-PATENT-CLASS-249-144 US-PATENT-CLASS-249-145 US-PATENT-CLASS-249-59 US-PATENT-CLASS-425-DIG.43 US-PATENT-CLASS-425-405R US-PATENT-CLASS-425-438 US-PATENT-CLASS-425-468 US-PATENT-3,850,567	N75-15029*	c 36	NASA-CASE-MFS-21244-1 US-PATENT-APPL-SN-350249 US-PATENT-CLASS-356-103 US-PATENT-CLASS-356-28 US-PATENT-CLASS-356-5 US-PATENT-3,856,402	N75-19329*	c 18	NASA-CASE-MFS-22734-1 US-PATENT-APPL-SN-453232 US-PATENT-CLASS-244-162 US-PATENT-3,866,863
N75-13139*	c 33	NASA-CASE-MFS-22073-1 US-PATENT-APPL-SN-409991 US-PATENT-CLASS-318-608 US-PATENT-CLASS-318-640 US-PATENT-CLASS-318-649 US-PATENT-CLASS-318-675 US-PATENT-3,851,238	N75-15050*	c 37	NASA-CASE-NPO-13050-1 US-PATENT-APPL-SN-317567 US-PATENT-CLASS-117-95 US-PATENT-CLASS-117-97 US-PATENT-CLASS-330-4 US-PATENT-CLASS-332-7.5 US-PATENT-3,859,119	N75-19408*	c 26	NASA-CASE-LEW-11696-2 US-PATENT-APPL-SN-298156 US-PATENT-APPL-SN-436315 US-PATENT-CLASS-29-194 US-PATENT-CLASS-29-196.2 US-PATENT-CLASS-29-196.6 US-PATENT-CLASS-29-197 US-PATENT-3,869,779
N75-13213*	c 35	NASA-CASE-MFS-22073-1 US-PATENT-APPL-SN-409991 US-PATENT-CLASS-318-608 US-PATENT-CLASS-318-640 US-PATENT-CLASS-318-649 US-PATENT-CLASS-318-675 US-PATENT-3,851,238	N75-15270*	c 52	NASA-CASE-NPO-13201-1 US-PATENT-APPL-SN-372149 US-PATENT-CLASS-137-505.38 US-PATENT-CLASS-137-505.42 US-PATENT-CLASS-74-424.8VA US-PATENT-3,856,042	N75-19515*	c 33	NASA-CASE-GSC-11760-1 NASA-CASE-GSC-11783-1 US-PATENT-APPL-SN-395868 US-PATENT-CLASS-343-761 US-PATENT-CLASS-343-781 US-PATENT-CLASS-343-837 US-PATENT-3,866,233
N75-13261*	c 37	NASA-CASE-LEW-11632-2 US-PATENT-APPL-SN-254173 US-PATENT-APPL-SN-327969 US-PATENT-CLASS-29-571 US-PATENT-CLASS-29-592 US-PATENT-CLASS-307-309 US-PATENT-CLASS-317-235H US-PATENT-CLASS-330-6 US-PATENT-3,849,875	N75-15662*	c 09	NASA-CASE-NPO-12119-1 US-PATENT-APPL-SN-847815 US-PATENT-CLASS-424-180 US-PATENT-3,849,554	N75-19517*	c 33	NASA-CASE-GSC-11582-1 US-PATENT-APPL-SN-397477 US-PATENT-CLASS-178-15 US-PATENT-CLASS-315-18 US-PATENT-CLASS-340-324AD US-PATENT-3,866,210
N75-13265*	c 37	NASA-CASE-LEW-11696-1 US-PATENT-APPL-SN-298156 US-PATENT-CLASS-29-196.6 US-PATENT-CLASS-29-197 US-PATENT-CLASS-29-460 US-PATENT-CLASS-29-494 US-PATENT-CLASS-29-497.5 US-PATENT-CLASS-29-504 US-PATENT-3,849,865	N75-15854*	c 32	NASA-CASE-LAR-10276-1 US-PATENT-APPL-SN-29979 US-PATENT-CLASS-272-1R US-PATENT-CLASS-272-57A US-PATENT-CLASS-35-12C US-PATENT-3,859,736	N75-19518*	c 33	NASA-CASE-ARC-10348-1 US-PATENT-APPL-SN-140439 US-PATENT-CLASS-330-69 US-PATENT-CLASS-330-86 US-PATENT-3,872,395
N75-13266*	c 37	NASA-CASE-KSC-10723-1 US-PATENT-APPL-SN-347952 US-PATENT-CLASS-338-162 US-PATENT-CLASS-338-75 US-PATENT-CLASS-338-97 US-PATENT-3,854,113	N75-15874*	c 33	NASA-CASE-NPO-13292-1 US-PATENT-APPL-SN-416135 US-PATENT-CLASS-343-100ST US-PATENT-CLASS-343-17.5 US-PATENT-CLASS-343-6.5R US-PATENT-CLASS-343-9 US-PATENT-3,860,921	N75-19519*	c 33	NASA-CASE-NPO-13125-1 US-PATENT-APPL-SN-319150 US-PATENT-CLASS-235-92DM US-PATENT-CLASS-235-92LG US-PATENT-CLASS-235-92R US-PATENT-CLASS-235-92T US-PATENT-CLASS-235-92VA US-PATENT-3,866,022
N75-13502*	c 51	NASA-CASE-NPO-13281-1 US-PATENT-APPL-SN-412079 US-PATENT-CLASS-74-436 US-PATENT-CLASS-74-820 US-PATENT-3,855,873	N75-15931*	c 35	NASA-CASE-MFS-22088-1 US-PATENT-APPL-SN-426155 US-PATENT-CLASS-318-227 US-PATENT-CLASS-318-230 US-PATENT-CLASS-318-231 US-PATENT-3,860,858	N75-19520*	c 33	NASA-CASE-ARC-10364-3 US-PATENT-APPL-SN-209618 US-PATENT-APPL-SN-462844 US-PATENT-CLASS-307-321 US-PATENT-CLASS-324-DIG 1 US-PATENT-CLASS-329-166 US-PATENT-CLASS-329-204 US-PATENT-CLASS-332-47 US-PATENT-3,869,676
N75-13531*	c 54	NASA-CASE-LAR-11074-1 US-PATENT-APPL-SN-326364 US-PATENT-CLASS-115-103.5 US-PATENT-CLASS-195-120 US-PATENT-CLASS-195-127 US-PATENT-3,850,754	N75-15932*	c 35	NASA-CASE-MFS-21761-1 US-PATENT-APPL-SN-337816 US-PATENT-CLASS-200-83N US-PATENT-CLASS-73-40 US-PATENT-CLASS-73-49.2 US-PATENT-3,859,845	N75-19521*	c 33	NASA-CASE-LEW-11581-1 US-PATENT-APPL-SN-327921 US-PATENT-CLASS-128-2.05A US-PATENT-CLASS-128-2.05P
			N75-15992*	c 37	NASA-CASE-MFS-21045-1 US-PATENT-APPL-SN-411572 US-PATENT-CLASS-73-1R US-PATENT-CLASS-73-379 US-PATENT-3,859,840			

N75-19522*	c 33	US-PATENT-3,869,667	N75-20140*	c 77	US-PATENT-CLASS-165-111	N75-25041*	c 33	US-PATENT-CLASS-331-25
		NASA-CASE-GSC-11844-1			US-PATENT-CLASS-62-285			US-PATENT-3,883,817
		US-PATENT-APPL-SN-452761			US-PATENT-CLASS-62-288			NASA-CASE-ARC-10364-2
		US-PATENT-CLASS-307-227			US-PATENT-CLASS-62-289			US-PATENT-APPL-SN-209618
		US-PATENT-CLASS-321-15			US-PATENT-CLASS-62-290			US-PATENT-APPL-SN-433968
N75-19524*	c 33	US-PATENT-CLASS-324-32	N75-21485*	c 32	US-PATENT-CLASS-62-317	N75-25122*	c 35	US-PATENT-CLASS-307-321
		US-PATENT-3,869,659			US-PATENT-CLASS-62-93			US-PATENT-CLASS-324-DIG.1
		NASA-CASE-NPO-13374-1			US-PATENT-3,868,830			US-PATENT-CLASS-329-166
		US-PATENT-APPL-SN-449118			NASA-CASE-GSC-11752-1			US-PATENT-CLASS-329-204
		US-PATENT-CLASS-318-137			US-PATENT-APPL-SN-446569			US-PATENT-3,883,812
N75-19611*	c 35	US-PATENT-CLASS-318-167	N75-21486*	c 32	US-PATENT-CLASS-219-497	N75-25123*	c 35	NASA-CASE-NPO-10764-2
		US-PATENT-CLASS-318-176			US-PATENT-CLASS-219-501			US-PATENT-APPL-SN-273519
		US-PATENT-CLASS-318-183			US-PATENT-CLASS-219-505			US-PATENT-APPL-SN-836280
		US-PATENT-3,867,677			US-PATENT-3,869,597			US-PATENT-CLASS-116-114.5
		NASA-CASE-LAR-11071-1			NASA-CASE-MSC-12607-1			US-PATENT-CLASS-117-72
N75-19612*	c 35	US-PATENT-APPL-SN-334349	N75-21582*	c 35	US-PATENT-APPL-SN-407323	N75-25124*	c 35	US-PATENT-CLASS-73-356
		US-PATENT-CLASS-417-138			US-PATENT-CLASS-178-DIG.12			US-PATENT-3,874,240
		US-PATENT-CLASS-417-36			US-PATENT-CLASS-358-36			NASA-CASE-NPO-13214-1
		US-PATENT-CLASS-417-395			US-PATENT-3,875,584			NASA-CASE-NPO-13215-1
		US-PATENT-CLASS-73-221			NASA-CASE-MSC-14558-1			US-PATENT-APPL-SN-394149
N75-19613*	c 35	US-PATENT-3,864,060	N75-21631*	c 37	US-PATENT-APPL-SN-428994	N75-25186*	c 37	US-PATENT-CLASS-178-DIG.29
		NASA-CASE-LAR-11237-1			US-PATENT-CLASS-178-58A			US-PATENT-CLASS-178-72
		US-PATENT-APPL-SN-402868			US-PATENT-CLASS-178-79			US-PATENT-3,883,689
		US-PATENT-CLASS-340-242			US-PATENT-3,875,332			NASA-CASE-MFS-21704-1
		US-PATENT-CLASS-73-46			NASA-CASE-MFS-22671-1			US-PATENT-APPL-SN-386793
N75-19614*	c 35	US-PATENT-CLASS-73-49.2	N75-23910*	c 35	US-PATENT-APPL-SN-419831	N75-25503*	c 51	US-PATENT-CLASS-350-3.5
		US-PATENT-3,864,960			US-PATENT-CLASS-178-69A			US-PATENT-3,883,215
		NASA-CASE-LAR-11207-1			US-PATENT-CLASS-235-181			NASA-CASE-NPO-13360-1
		US-PATENT-APPL-SN-385013			US-PATENT-CLASS-324-57PS			US-PATENT-APPL-SN-401920
		US-PATENT-CLASS-178-DIG.20			US-PATENT-CLASS-324-77H			US-PATENT-CLASS-228-1
N75-19615*	c 35	US-PATENT-CLASS-250-332	N75-24716*	c 05	US-PATENT-CLASS-325-67	N75-25706*	c 74	US-PATENT-CLASS-251-333
		US-PATENT-CLASS-356-186			US-PATENT-3,875,500			US-PATENT-3,874,635
		US-PATENT-CLASS-356-189			NASA-CASE-LEW-11274-1			NASA-CASE-MFS-22649-1
		US-PATENT-CLASS-356-83			US-PATENT-APPL-SN-380630			US-PATENT-APPL-SN-398901
		US-PATENT-CLASS-356-96			US-PATENT-CLASS-277-134			US-PATENT-CLASS-408-112
N75-19616*	c 35	US-PATENT-3,869,212	N75-24736*	c 07	US-PATENT-CLASS-277-27	N75-25730*	c 76	US-PATENT-CLASS-408-186
		NASA-CASE-LAR-11173-1			US-PATENT-CLASS-277-40			US-PATENT-CLASS-408-193
		US-PATENT-APPL-SN-354408			US-PATENT-3,874,677			US-PATENT-CLASS-408-195
		US-PATENT-CLASS-332-2			NASA-CASE-NPO-13327-1			US-PATENT-3,877,833
		US-PATENT-CLASS-73-557			US-PATENT-APPL-SN-429437			NASA-CASE-ARC-10722-1
N75-19617*	c 35	US-PATENT-3,868,856	N75-24758*	c 09	US-PATENT-CLASS-247-171	N75-25914*	c 05	US-PATENT-APPL-SN-428995
		NASA-CASE-MFS-22189-1			US-PATENT-CLASS-250-203			US-PATENT-CLASS-47-1.2
		US-PATENT-APPL-SN-405342			US-PATENT-CLASS-250-211R			US-PATENT-CLASS-47-39
		US-PATENT-CLASS-33-148D			US-PATENT-3,875,404			US-PATENT-CLASS-47-58
		US-PATENT-CLASS-73-143			NASA-CASE-MSC-14339-1			US-PATENT-3,882,634
N75-19618*	c 35	US-PATENT-3,864,953	N75-24774*	c 12	US-PATENT-APPL-SN-347953	N75-25915*	c 05	NASA-CASE-LAR-11252-1
		NASA-CASE-MFS-20932-1			US-PATENT-CLASS-128-2.06E			US-PATENT-APPL-SN-367268
		US-PATENT-APPL-SN-374441			US-PATENT-CLASS-128-DIG.4			US-PATENT-CLASS-244-13
		US-PATENT-CLASS-250-505			US-PATENT-CLASS-128-2.06B			US-PATENT-CLASS-244-15
		US-PATENT-CLASS-250-508			US-PATENT-3,882,846			US-PATENT-CLASS-250-566
N75-19619*	c 36	US-PATENT-CLASS-250-510	N75-24794*	c 14	NASA-CASE-ARC-10754-1	N75-25916*	c 05	US-PATENT-CLASS-350-311
		US-PATENT-3,869,615			US-PATENT-APPL-SN-398886			US-PATENT-3,883,436
		NASA-CASE-NPO-13131-1			US-PATENT-CLASS-137-15.1			NASA-CASE-GSC-11425-2
		US-PATENT-APPL-SN-390468			US-PATENT-CLASS-244-53B			US-PATENT-APPL-SN-206266
		US-PATENT-CLASS-178-7.1			US-PATENT-3,883,095			US-PATENT-APPL-SN-394206
N75-19620*	c 36	US-PATENT-CLASS-250-211R	N75-24837*	c 20	US-PATENT-CLASS-318-314	N75-26194*	c 05	US-PATENT-CLASS-357-23
		US-PATENT-CLASS-250-578			US-PATENT-CLASS-318-318			US-PATENT-CLASS-357-29
		US-PATENT-CLASS-315-169R			US-PATENT-CLASS-318-341			US-PATENT-CLASS-357-42
		US-PATENT-CLASS-340-173LS			US-PATENT-3,883,785			US-PATENT-CLASS-357-52
		US-PATENT-3,865,975			NASA-CASE-NPO-13263-1			US-PATENT-CLASS-357-54
N75-19621*	c 36	NASA-CASE-HQN-10844-1	N75-24794*	c 14	US-PATENT-APPL-SN-393523	N75-25915*	c 05	US-PATENT-CLASS-357-91
		US-PATENT-APPL-SN-412080			US-PATENT-CLASS-73-505			US-PATENT-3,882,530
		US-PATENT-CLASS-356-106LR			US-PATENT-3,882,732			NASA-CASE-LAR-11251-1
		US-PATENT-3,869,210			US-PATENT-CLASS-73-505			US-PATENT-APPL-SN-367268
		NASA-CASE-GSC-11746-1			US-PATENT-3,882,719			US-PATENT-CLASS-D12-76
N75-19622*	c 36	US-PATENT-APPL-SN-393528	N75-24794*	c 14	US-PATENT-3,882,732	N75-26195*	c 05	US-PATENT-CLASS-244-13
		US-PATENT-CLASS-331-94.5M			NASA-CASE-MFS-21488-1			US-PATENT-CLASS-244-15
		US-PATENT-3,869,680			US-PATENT-APPL-SN-359156			US-PATENT-CLASS-244-42DA
		NASA-CASE-LAR-11341-1			US-PATENT-CLASS-73-143			US-PATENT-CLASS-244-55
		US-PATENT-APPL-SN-367293			US-PATENT-3,882,719			US-PATENT-3,884,432
N75-19623*	c 36	US-PATENT-CLASS-330-4.3	N75-24837*	c 20	US-PATENT-NPO-13303-1	N75-26194*	c 05	NASA-CASE-ARC-10519-2
		US-PATENT-CLASS-331-94.5P			US-PATENT-APPL-SN-457295			US-PATENT-APPL-SN-452767
		US-PATENT-3,868,591			US-PATENT-CLASS-310-10			US-PATENT-CLASS-280-150SB
		NASA-CASE-LAR-11341-1			US-PATENT-CLASS-310-40			US-PATENT-CLASS-297-385
		US-PATENT-APPL-SN-367293			US-PATENT-CLASS-310-52			US-PATENT-CLASS-297-388
N75-19624*	c 37	US-PATENT-CLASS-315-169R	N75-24837*	c 20	US-PATENT-CLASS-310-52	N75-26195*	c 05	US-PATENT-CLASS-297-388
		US-PATENT-CLASS-340-173LS			US-PATENT-CLASS-335-216			US-PATENT-CLASS-297-389
		US-PATENT-3,865,975			US-PATENT-CLASS-60-516			US-PATENT-CLASS-297-389
		NASA-CASE-HQN-10844-1			US-PATENT-CLASS-60-530			US-PATENT-3,887,233
		US-PATENT-APPL-SN-412080			US-PATENT-CLASS-62-3			NASA-CASE-LAR-11144-1
N75-19625*	c 36	US-PATENT-CLASS-356-106LR	N75-24794*	c 14	US-PATENT-3,882,732	N75-26043*	c 25	US-PATENT-APPL-SN-426405
		US-PATENT-3,869,210			US-PATENT-CLASS-62-467			US-PATENT-CLASS-117-106A
		NASA-CASE-GSC-11746-1			US-PATENT-3,875,435			US-PATENT-CLASS-117-107.2
		US-PATENT-APPL-SN-393528			NASA-CASE-GSC-11743-1			US-PATENT-CLASS-117-201
		US-PATENT-CLASS-331-94.5M			US-PATENT-APPL-SN-370271			US-PATENT-CLASS-118-48
N75-19626*	c 36	US-PATENT-3,869,680	N75-24794*	c 14	US-PATENT-CLASS-178-66R	N75-26043*	c 25	US-PATENT-CLASS-118-49.1
		NASA-CASE-LAR-11341-1			US-PATENT-CLASS-325-30			US-PATENT-CLASS-148-175
		US-PATENT-APPL-SN-367293			US-PATENT-CLASS-325-60			US-PATENT-CLASS-252-62.3GA
		US-PATENT-CLASS-330-4.3			US-PATENT-3,878,464			US-PATENT-3,888,705
		US-PATENT-CLASS-331-94.5P			NASA-CASE-NPO-13140-1			NASA-CASE-NPO-13217-1
N75-19627*	c 36	US-PATENT-3,868,591	N75-24837*	c 20	US-PATENT-APPL-SN-374422	N75-26194*	c 32	US-PATENT-APPL-SN-362145
		NASA-CASE-LAR-11341-1			US-PATENT-CLASS-343-100PE			US-PATENT-CLASS-343-105R
		US-PATENT-APPL-SN-367293			US-PATENT-CLASS-343-5GC			US-PATENT-CLASS-343-112D
		US-PATENT-CLASS-330-4.3			US-PATENT-3,883,872			US-PATENT-3,889,264
		US-PATENT-CLASS-331-94.5P			NASA-CASE-GSC-11623-1			NASA-CASE-NPO-13321-1
N75-19628*	c 37	US-PATENT-3,868,591	N75-24981*	c 32	US-PATENT-APPL-SN-389929	N75-26195*	c 32	US-PATENT-APPL-SN-455163
		NASA-CASE-MSC-19095-1			US-PATENT-CLASS-331-1A			US-PATENT-CLASS-179-15BS
		US-PATENT-APPL-SN-415486			US-PATENT-CLASS-331-18			US-PATENT-CLASS-325-4
		US-PATENT-CLASS-219-137						
		US-PATENT-3,864,542						
N75-19629*	c 37	NASA-CASE-NPO-13345-1	N75-25040*	c 33		N75-26195*	c 32	
		US-PATENT-APPL-SN-462705						
		US-PATENT-CLASS-204-192						
		US-PATENT-CLASS-204-298						
		US-PATENT-3,864,239						
N75-19630*	c 37	NASA-CASE-MFS-21606-1	N75-25040*	c 33		N75-26195*	c 32	
		US-PATENT-APPL-SN-356555						
		US-PATENT-CLASS-292-DIG.14						
		US-PATENT-CLASS-292-108						
		US-PATENT-CLASS-292-122						
N75-19631*	c 37	US-PATENT-3,869,160	N75-25040*	c 33		N75-26195*	c 32	
		NASA-CASE-MFS-19193-1						
		US-PATENT-APPL-SN-461477						
		US-PATENT-CLASS-285-114						
		US-PATENT-CLASS-285-226						
N75-19632*	c 37	US-PATENT-3,869,151	N75-25040*	c 33		N75-26195*	c 32	
		NASA-CASE-MSC-14143-1						
		US-PATENT-APPL-SN-393526						
		US-PATENT-CLASS-165-110						



N75-26243*	c 33	US-PATENT-3,889,064	N75-27251*	c 33	US-PATENT-3,189,784	N75-29381*	c 35	US-PATENT-CLASS-311-37
		NASA-CASE-GSC-11744-1			NASA-CASE-HQN-10069			US-PATENT-CLASS-331-65
N75-26244*	c 33	US-PATENT-APPL-SN-353162	N75-27252*	c 33	US-PATENT-APPL-SN-739072	N75-29382*	c 35	US-PATENT-CLASS-73-23
		US-PATENT-CLASS-179-158C			US-PATENT-CLASS-330-5			US-PATENT-3,895,912
N75-26245*	c 33	US-PATENT-CLASS-235-150.53	N75-27328*	c 35	US-PATENT-3,551,831	N75-29426*	c 37	NASA-CASE-ARC-10806-1
		US-PATENT-CLASS-235-181			US-PATENT-LAR-11042-1			US-PATENT-APPL-SN-478802
N75-26246*	c 33	US-PATENT-CLASS-324-83Q	N75-27329*	c 35	US-PATENT-APPL-SN-440916	N75-30132*	c 03	US-PATENT-CLASS-73-178R
		US-PATENT-CLASS-328-133			US-PATENT-CLASS-204-242			US-PATENT-3,895,521
N75-26282*	c 34	US-PATENT-3,875,394	N75-27330*	c 35	US-PATENT-CLASS-204-267	N75-30256*	c 23	NASA-CASE-XMS-05731
		NASA-CASE-MFS-22208-1			US-PATENT-CLASS-204-279			US-PATENT-APPL-SN-441279
N75-26334*	c 35	US-PATENT-APPL-SN-448325	N75-27364*	c 36	US-PATENT-CLASS-204-286	N75-30428*	c 33	US-PATENT-CLASS-73-117.4
		US-PATENT-CLASS-315-10			US-PATENT-CLASS-204-290R			US-PATENT-3,375,712
N75-26371*	c 37	US-PATENT-CLASS-315-367	N75-27376*	c 37	US-PATENT-3,891,533	N75-30429*	c 33	NASA-CASE-XLE-10717
		US-PATENT-CLASS-315-369			NASA-CASE-MFS-22537-1			US-PATENT-APPL-SN-484243
N75-26372*	c 37	US-PATENT-CLASS-315-387	N75-27585*	c 45	US-PATENT-APPL-SN-387266	N75-30430*	c 33	US-PATENT-CLASS-315-111
		US-PATENT-3,889,155			US-PATENT-CLASS-350-3.5			US-PATENT-3,004,189
N75-26789* #	c 70	NASA-CASE-LAR-11352-1	N75-27758*	c 54	US-PATENT-3,888,561	N75-30502*	c 35	NASA-CASE-ERC-10419-1
		US-PATENT-APPL-SN-459736			NASA-CASE-XMF-05882			US-PATENT-APPL-SN-219722
N75-27040*	c 18	US-PATENT-CLASS-23-254E	N75-27759*	c 54	US-PATENT-APPL-SN-533650	N75-30503*	c 35	US-PATENT-CLASS-343-112CA
		US-PATENT-CLASS-324-58.5A			US-PATENT-CLASS-250-83.3			US-PATENT-CLASS-343-6.5R
N75-27041*	c 18	US-PATENT-CLASS-324-58.5C	N75-27760*	c 54	US-PATENT-3,454,766	N75-30504*	c 35	US-PATENT-3,900,847
		US-PATENT-3,889,182			NASA-CASE-LAR-11354-1			NASA-CASE-MFS-22356-1
N75-27125*	c 26	US-PATENT-APPL-SN-461073	N75-27761*	c 54	US-PATENT-APPL-SN-409900	N75-30524*	c 36	US-PATENT-APPL-SN-489000
		US-PATENT-CLASS-324-72			US-PATENT-CLASS-195-103.5R			US-PATENT-CLASS-260-346.3
N75-27126*	c 26	US-PATENT-3,889,185	N75-28135*	c 24	US-PATENT-CLASS-195-120	N75-30562*	c 37	US-PATENT-CLASS-260-520
		NASA-CASE-LAR-11110-1			US-PATENT-CLASS-195-127			US-PATENT-CLASS-260-78TF
N75-27127*	c 26	US-PATENT-CLASS-233-DIG.1	N75-29192*	c 25	US-PATENT-CLASS-195-141	N75-30876*	c 73	US-PATENT-3,899,517
		US-PATENT-CLASS-233-20RP			US-PATENT-3,884,765			NASA-CASE-LAR-10337-1
N75-27160*	c 27	US-PATENT-CLASS-233-25	N75-29236*	c 26	NASA-CASE-GSC-11829-1	N75-31329*	c 33	US-PATENT-APPL-SN-424038
		US-PATENT-CLASS-233-46			US-PATENT-APPL-SN-502136			US-PATENT-CLASS-29-610
N75-27249*	c 33	US-PATENT-CLASS-233-6	N75-29263* #	c 27	US-PATENT-CLASS-250-385	N75-31329*	c 33	US-PATENT-CLASS-29-613
		US-PATENT-3,888,410			US-PATENT-3,891,851			US-PATENT-CLASS-338-13
N75-27250*	c 33	NASA-CASE-ARC-10344-2	N75-29318*	c 33	NASA-CASE-XLE-2529-2	N75-31329*	c 33	US-PATENT-CLASS-338-283
		US-PATENT-APPL-SN-446564			US-PATENT-APPL-SN-848403			US-PATENT-3,898,730
		US-PATENT-CLASS-55-386			US-PATENT-CLASS-240-41B			NASA-CASE-MFS-22342-1
		US-PATENT-3,887,345			US-PATENT-CLASS-330-4.3			US-PATENT-APPL-SN-361666
		NASA-CASE-GSC-10984-1			US-PATENT-CLASS-331-94.5A			US-PATENT-CLASS-330-13
		US-PATENT-APPL-SN-127480			US-PATENT-3,894,289			US-PATENT-CLASS-330-18
		US-PATENT-CLASS-117-126GM			NASA-CASE-XMS-01330			US-PATENT-CLASS-330-40
		US-PATENT-CLASS-117-126R			US-PATENT-APPL-SN-153624			US-PATENT-CLASS-330-63
		US-PATENT-CLASS-161-92			US-PATENT-APPL-SN-322565			US-PATENT-3,898,578
		US-PATENT-CLASS-161-93			US-PATENT-CLASS-219-125			NASA-CASE-MFS-21616-1
		US-PATENT-CLASS-29-182.2			US-PATENT-3,275,794			US-PATENT-APPL-SN-464723
		US-PATENT-CLASS-29-182.5			NASA-CASE-NPO-13231-1			US-PATENT-CLASS-330-207A
		US-PATENT-CLASS-29-420.5			US-PATENT-APPL-SN-428993			US-PATENT-CLASS-330-24
		US-PATENT-CLASS-65-3			US-PATENT-CLASS-250-343			US-PATENT-3,899,745
		US-PATENT-CLASS-75-DIG.1			US-PATENT-CLASS-250-345			NASA-CASE-NPO-13504-1
		US-PATENT-CLASS-75-200			US-PATENT-CLASS-250-432			US-PATENT-APPL-SN-483852
		US-PATENT-CLASS-75-208R			US-PATENT-3,891,848			US-PATENT-CLASS-33-96
		US-PATENT-CLASS-75-212			NASA-CASE-NPO-13386-1			US-PATENT-CLASS-333-21R
		US-PATENT-CLASS-75-214			US-PATENT-APPL-SN-475336			US-PATENT-CLASS-333-83BT
		US-PATENT-CLASS-75-222			US-PATENT-CLASS-214-1B			US-PATENT-CLASS-333-98R
		US-PATENT-3,887,365			US-PATENT-CLASS-214-1CM			US-PATENT-3,902,143
		NASA-CASE-MFS-21931-1			US-PATENT-CLASS-318-640			NASA-CASE-KSC-10782-1
		US-PATENT-APPL-SN-464721			US-PATENT-3,888,362			US-PATENT-APPL-SN-400467
		US-PATENT-CLASS-250-359			NASA-CASE-MSC-13601-2			US-PATENT-CLASS-178-DIG.1
		US-PATENT-CLASS-250-460			US-PATENT-APPL-SN-395495			US-PATENT-CLASS-178-6.8
		US-PATENT-CLASS-250-492			US-PATENT-CLASS-351-38			US-PATENT-3,900,705
		US-PATENT-3,889,122			US-PATENT-3,891,311			NASA-CASE-ARC-10802-1
		NASA-CASE-MFS-22758-1			NASA-CASE-ARC-10753-1			US-PATENT-APPL-SN-484208
		US-PATENT-APPL-SN-581514			US-PATENT-APPL-SN-427395			US-PATENT-CLASS-205-343
		NASA-CASE-XHQ-02146			US-PATENT-CLASS-128-2.05Z			US-PATENT-CLASS-250-351
		US-PATENT-APPL-SN-290043			US-PATENT-CLASS-128-2V			US-PATENT-CLASS-250-373
		US-PATENT-CLASS-52-71			US-PATENT-CLASS-128-24A			US-PATENT-CLASS-356-51
		US-PATENT-3,206,897			US-PATENT-CLASS-74-471XY			US-PATENT-3,899,252
		NASA-CASE-MSC-14245-1			US-PATENT-3,893,449			NASA-CASE-LEW-12078-1
		US-PATENT-APPL-SN-389916			NASA-CASE-NPO-13313-1			US-PATENT-APPL-SN-447124
		US-PATENT-CLASS-214-1CM			US-PATENT-APPL-SN-449153			US-PATENT-CLASS-73-194M
		US-PATENT-3,893,573			US-PATENT-CLASS-128-145.8			US-PATENT-CLASS-73-195
		NASA-CASE-XMF-05868			US-PATENT-CLASS-55-DIG.35			US-PATENT-3,898,882
		US-PATENT-APPL-SN-512509			US-PATENT-3,893,458			NASA-CASE-MSC-12531-1
		US-PATENT-CLASS-260-29.6			NASA-CASE-MFS-21077-1			US-PATENT-APPL-SN-354612
		US-PATENT-3,475,442			US-PATENT-APPL-SN-127481			US-PATENT-CLASS-307-204
		NASA-CASE-XMF-06053			US-PATENT-CLASS-228-190			US-PATENT-CLASS-307-211
		US-PATENT-APPL-SN-542192			US-PATENT-CLASS-228-193			US-PATENT-CLASS-307-219
		US-PATENT-CLASS-75-173			US-PATENT-CLASS-29-419			US-PATENT-CLASS-328-61
		US-PATENT-3,411,900			US-PATENT-3,894,677			US-PATENT-CLASS-328-62
		NASA-CASE-XNP-03878			NASA-CASE-HQN-10462			US-PATENT-3,900,741
		US-PATENT-APPL-SN-488745			US-PATENT-APPL-SN-773530			NASA-CASE-NPO-13308-1
		US-PATENT-CLASS-75-173			US-PATENT-CLASS-118-43			US-PATENT-APPL-SN-455165
		US-PATENT-3,373,016			US-PATENT-3,603,285			US-PATENT-CLASS-310-4
		NASA-CASE-MFS-22324-1			NASA-CASE-XNP-01311			US-PATENT-CLASS-331-DIG.1
		US-PATENT-APPL-SN-350250			US-PATENT-APPL-SN-430496			US-PATENT-3,899,696
		US-PATENT-CLASS-106-48			US-PATENT-CLASS-148-127			NASA-CASE-LEW-11076-3
		US-PATENT-CLASS-i06-54			US-PATENT-3,390,023			US-PATENT-APPL-SN-405346
		US-PATENT-CLASS-117-129			NASA-CASE-LAR-11397-1			US-PATENT-CLASS-308-121
		US-PATENT-3,891,452			US-PATENT-APPL-SN-532734			US-PATENT-CLASS-308-73
		NASA-CASE-XMS-02744			NASA-CASE-ARC-10266-1			US-PATENT-3,899,224
		US-PATENT-APPL-SN-351950			US-PATENT-APPL-SN-453241			NASA-CASE-LEW-11227-1
		US-PATENT-CLASS-200-129			US-PATENT-APPL-SN-585988			US-PATENT-APPL-SN-146939
		US-PATENT-3,281,558			US-PATENT-CLASS-315-111			US-PATENT-CLASS-244-1SS
		NASA-CASE-XNP-01296			US-PATENT-3,469,143			US-PATENT-CLASS-250-493
		US-PATENT-APPL-SN-127984			NASA-CASE-MFS-22060-1			US-PATENT-CLASS-250-496
		US-PATENT-CLASS-315-30			US-PATENT-APPL-SN-521603			US-PATENT-3,899,680
					US-PATENT-CLASS-23-254E			NASA-CASE-NPO-13423-1
					US-PATENT-CLASS-23-255E			US-PATENT-APPL-SN-470429

		US-PATENT-CLASS-128-25		US-PATENT-CLASS-279-18	N76-14429*	c 35	NASA-CASE-LAR-11552-1
		US-PATENT-CLASS-338-2		US-PATENT-CLASS-279-107			US-PATENT-APPL-SN-518685
		US-PATENT-CLASS-73-88.5		US-PATENT-CLASS-279-89			US-PATENT-CLASS-73-182
		US-PATENT-3,905,356		US-PATENT-CLASS-29-26A			US-PATENT-CLASS-73-212
N75-31330*	c 33	NASA-CASE-NPO-13426-1		US-PATENT-CLASS-294-116			US-PATENT-3,914,997
		US-PATENT-APPL-SN-45053		US-PATENT-CLASS-294-86.33	N76-14430*	c 35	NASA-CASE-NPO-13170-1
		US-PATENT-CLASS-307-225R		US-PATENT-3,907,312			US-PATENT-APPL-SN-382261
		US-PATENT-CLASS-328-41	N75-33640*	NASA-CASE-LEW-12051-1			US-PATENT-CLASS-338-6
		US-PATENT-3,906,374		US-PATENT-APPL-SN-397478			US-PATENT-CLASS-73-88.5R
N75-31331*	c 33	NASA-CASE-NPO-11156-2		US-PATENT-CLASS-128-230			US-PATENT-3,914,991
		US-PATENT-APPL-SN-174684		US-PATENT-CLASS-128-305	N76-14431*	c 35	NASA-CASE-LEW-11915-1
		US-PATENT-CLASS-307-238		US-PATENT-3,906,954			US-PATENT-APPL-SN-474744
		US-PATENT-CLASS-340-173CA	N76-14158*	NASA-CASE-LAR-11051-1			US-PATENT-CLASS-137-15.2
		US-PATENT-CLASS-357-24		US-PATENT-APPL-SN-384773			US-PATENT-CLASS-235-151.34
		US-PATENT-CLASS-357-7		US-PATENT-CLASS-244-165			US-PATENT-CLASS-60-39.29
		US-PATENT-3,906,296		US-PATENT-CLASS-244-3.21			US-PATENT-3,911,260
N75-31332*	c 33	NASA-CASE-NPO-13348-1		US-PATENT-CLASS-74-5.7	N76-14447*	c 36	NASA-CASE-ARC-10642-1
		US-PATENT-APPL-SN-452770		US-PATENT-3,915,416			US-PATENT-APPL-SN-446562
		US-PATENT-CLASS-250-238	N76-14186*	NASA-CASE-MSC-12559-1			US-PATENT-CLASS-356-106R
		US-PATENT-CLASS-250-370		US-PATENT-APPL-SN-370582			US-PATENT-CLASS-356-28
		US-PATENT-CLASS-357-5		US-PATENT-CLASS-178-DIG.20			US-PATENT-3,915,572
		US-PATENT-3,906,231		US-PATENT-CLASS-244-161	N76-14460*	c 37	NASA-CASE-MFS-19194-1
N75-31426*	c 36	NASA-CASE-ARC-10370-1		US-PATENT-CLASS-33-286			US-PATENT-APPL-SN-483850
		US-PATENT-APPL-SN-137391		US-PATENT-CLASS-35-12			US-PATENT-CLASS-285-226
		US-PATENT-CLASS-331-94.5G		US-PATENT-CLASS-356-153			US-PATENT-CLASS-285-265
		US-PATENT-CLASS-231-94.5P		US-PATENT-3,910,533			US-PATENT-3,915,492
		US-PATENT-3,906,397	N76-14190*	NASA-CASE-LEW-11593-1	N76-14461*	c 37	NASA-CASE-LEW-11694-2
N75-31427*	c 36	NASA-CASE-NPO-13175-1		US-PATENT-APPL-SN-363691			US-PATENT-APPL-SN-352381
		US-PATENT-APPL-SN-374423		US-PATENT-CLASS-60-39.23			US-PATENT-APPL-SN-462903
		US-PATENT-CLASS-331-94.5C		US-PATENT-CLASS-60-39.29			US-PATENT-CLASS-29-421
		US-PATENT-CLASS-350-161		US-PATENT-CLASS-60-39.74R			US-PATENT-CLASS-72-363
		US-PATENT-CLASS-350-96WG		US-PATENT-3,910,035			US-PATENT-CLASS-72-54
		US-PATENT-3,906,393	N76-14191*	NASA-CASE-LEW-11118-2			US-PATENT-CLASS-72-63
N75-31446*	c 37	NASA-CASE-LEW-11925-1		US-PATENT-APPL-SN-436316			US-PATENT-3,914,969
		US-PATENT-APPL-SN-450505		US-PATENT-CLASS-239-127.3	N76-14463*	c 37	NASA-CASE-MFS-22323-1
		US-PATENT-CLASS-308-191		US-PATENT-CLASS-60-265			US-PATENT-APPL-SN-474745
		US-PATENT-CLASS-308-195		US-PATENT-CLASS-60-267			US-PATENT-CLASS-137-515.3
		US-PATENT-CLASS-308-201		US-PATENT-3,910,039			US-PATENT-CLASS-137-550
		US-PATENT-3,905,660	N76-14203*	NASA-CASE-NPO-12122-1			US-PATENT-CLASS-210-429
N75-32441*	c 36	NASA-CASE-NPO-13449-1		US-PATENT-APPL-SN-401921			US-PATENT-CLASS-251-149.6
		US-PATENT-APPL-SN-420813		US-PATENT-CLASS-149-36			US-PATENT-3,910,307
		US-PATENT-CLASS-310-11		US-PATENT-CLASS-423-407	N76-14595*	c 44	NASA-CASE-MFS-22562-1
		US-PATENT-CLASS-330-4.3		US-PATENT-3,919,014			US-PATENT-APPL-SN-458484
		US-PATENT-CLASS-331-94.5PE	N76-14204*	NASA-CASE-MSC-12568-1			US-PATENT-CLASS-126-270
		US-PATENT-CLASS-331-94.5G		US-PATENT-APPL-SN-325784			US-PATENT-CLASS-136-206
		US-PATENT-3,906,398		US-PATENT-CLASS-136-146			US-PATENT-CLASS-204-32R
N75-32465* #	c 37	NASA-CASE-ARC-10907-1		US-PATENT-CLASS-136-148			US-PATENT-CLASS-204-33
		US-PATENT-APPL-SN-619986		US-PATENT-CLASS-162-102			US-PATENT-CLASS-204-38A
N75-32581*	c 44	NASA-CASE-MFS-21628-1		US-PATENT-CLASS-162-153			US-PATENT-CLASS-204-40
		US-PATENT-APPL-SN-421702		US-PATENT-CLASS-162-222			US-PATENT-CLASS-204-49
		US-PATENT-CLASS-126-271		US-PATENT-CLASS-162-228			US-PATENT-CLASS-29-194
		US-PATENT-CLASS-165-105		US-PATENT-3,910,814			US-PATENT-CLASS-29-195
		US-PATENT-CLASS-244-173	N76-14264*	NASA-CASE-MSC-14182-1			US-PATENT-CLASS-29-197
		US-PATENT-CLASS-60-641		US-PATENT-APPL-SN-419748			US-PATENT-3,920,413
		US-PATENT-CLASS-60-659		US-PATENT-CLASS-403-179	N76-14600*	c 44	NASA-CASE-LEW-11065-2
		US-PATENT-3,903,699		US-PATENT-CLASS-403-28			US-PATENT-APPL-SN-154930
N75-33181*	c 24	NASA-CASE-LEW-11484-1		US-PATENT-CLASS-428-109			US-PATENT-APPL-SN-371322
		US-PATENT-APPL-SN-356554		US-PATENT-CLASS-428-212			US-PATENT-CLASS-136-89
		US-PATENT-CLASS-117-105.2		US-PATENT-CLASS-428-214			US-PATENT-CLASS-29-572
		US-PATENT-CLASS-117-38		US-PATENT-CLASS-428-416			US-PATENT-3,912,540
		US-PATENT-CLASS-117-46FS		US-PATENT-CLASS-428-447	N76-14601*	c 44	NASA-CASE-MFS-22749-1
		US-PATENT-CLASS-117-8.5		US-PATENT-CLASS-428-77			US-PATENT-APPL-SN-483857
		US-PATENT-CLASS-29-DIG.24		US-PATENT-3,920,339			US-PATENT-CLASS-136-114
		US-PATENT-CLASS-29-DIG.39	N76-14284*	NASA-CASE-NPO-13435-1			US-PATENT-CLASS-136-162
		US-PATENT-CLASS-29-527.2		US-PATENT-APPL-SN-478803			US-PATENT-CLASS-136-182
		US-PATENT-CLASS-72-46		US-PATENT-CLASS-62-129			US-PATENT-CLASS-136-90
		US-PATENT-3,906,769		US-PATENT-CLASS-62-49			US-PATENT-3,912,541
N75-33342*	c 34	NASA-CASE-MSC-14273-1		US-PATENT-CLASS-73-295	N76-14602*	c 44	NASA-CASE-NPO-13497-1
		US-PATENT-APPL-SN-385522		US-PATENT-3,914,950			US-PATENT-APPL-SN-526448
		US-PATENT-CLASS-210-234	N76-14321*	NASA-CASE-LAR-11021-1			US-PATENT-CLASS-126-271
		US-PATENT-CLASS-210-259		US-PATENT-APPL-SN-453115			US-PATENT-CLASS-237-1A
		US-PATENT-CLASS-210-304		US-PATENT-CLASS-325-304			US-PATENT-CLASS-350-211
		US-PATENT-CLASS-210-333		US-PATENT-CLASS-325-306			US-PATENT-3,915,148
		US-PATENT-CLASS-210-340		US-PATENT-CLASS-325-372	N76-14757*	c 52	NASA-CASE-MSC-14180-1
		US-PATENT-CLASS-210-411		US-PATENT-CLASS-328-145			US-PATENT-APPL-SN-354406
		US-PATENT-CLASS-210-425		US-PATENT-CLASS-343-176			US-PATENT-CLASS-128-2.06R
		US-PATENT-CLASS-210-512		US-PATENT-3,916,316			US-PATENT-CLASS-128-2.1A
		US-PATENT-CLASS-210-82	N76-14371*	NASA-CASE-KSC-10834-1			US-PATENT-CLASS-128-2H
		US-PATENT-3,907,686		US-PATENT-APPL-SN-536535			US-PATENT-3,910,257
N75-33367*	c 35	NASA-CASE-LAR-10629-1		US-PATENT-CLASS-178-69.5R	N76-14804*	c 54	NASA-CASE-MSC-14640-1
		US-PATENT-APPL-SN-402867		US-PATENT-CLASS-178-88			US-PATENT-APPL-SN-526449
		US-PATENT-CLASS-116-114AH		US-PATENT-CLASS-328-190			US-PATENT-CLASS-128-2F
		US-PATENT-CLASS-73-12		US-PATENT-CLASS-328-63			US-PATENT-CLASS-73-421R
		US-PATENT-CLASS-73-170R		US-PATENT-3,916,084			US-PATENT-3,915,012
		US-PATENT-CLASS-73-432PS	N76-14372*	NASA-CASE-LAR-10970-1			US-PATENT-APPL-SN-521601
		US-PATENT-3,896,758		US-PATENT-APPL-SN-527790	N76-14818*	c 60	NASA-CASE-NPO-13422-1
N75-33368*	c 35	NASA-CASE-LAR-11326-1		US-PATENT-CLASS-343-770			US-PATENT-APPL-SN-521601
		US-PATENT-APPL-SN-491416		US-PATENT-CLASS-343-797			US-PATENT-CLASS-340-147C
		US-PATENT-CLASS-195-103.5R		US-PATENT-CLASS-343-846			US-PATENT-CLASS-340-147R
		US-PATENT-3,907,646		US-PATENT-3,919,710			US-PATENT-3,916,380
N75-33369*	c 35	NASA-CASE-LAR-11263-1	N76-14373*	NASA-CASE-NPO-13451-1	N76-14931*	c 75	NASA-CASE-MFS-22287-1
		US-PATENT-APPL-SN-472775		US-PATENT-APPL-SN-501012			US-PATENT-APPL-SN-438147
		US-PATENT-CLASS-73-141A		US-PATENT-CLASS-235-92SH			US-PATENT-CLASS-315-111.6
		US-PATENT-3,906,788		US-PATENT-CLASS-307-221R			US-PATENT-CLASS-73-12
N75-33395*	c 37	NASA-CASE-MFS-22283-1		US-PATENT-CLASS-328-37			US-PATENT-CLASS-89-8
		US-PATENT-APPL-SN-387095		US-PATENT-3,911,330			US-PATENT-3,916,761

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		US-PATENT-CLASS-332-7.51	N76-19436*	c 37	NASA-CASE-MFS-20607-1	US-PATENT-CLASS-33-1G
		US-PATENT-CLASS-350-150			US-PATENT-APPL-SN-478800	US-PATENT-CLASS-33-174B
		US-PATENT-CLASS-350-160			US-PATENT-CLASS-222-145	US-PATENT-3,945,879
		US-PATENT-CLASS-423-352			US-PATENT-CLASS-259-4AC	N76-21742*
		US-PATENT-CLASS-423-644			US-PATENT-3,941,355	c 45
		US-PATENT-3,806,834	N76-19437*	c 37	NASA-CASE-MSC-12615-1	NASA-CASE-NPO-13474-1
N76-18428*	c 36	NASA-CASE-NPO-13544-1			US-PATENT-APPL-SN-491417	US-PATENT-APPL-SN-521817
		US-PATENT-APPL-SN-533555			US-PATENT-CLASS-244-117A	US-PATENT-CLASS-23-254E
		US-PATENT-CLASS-331-94.5C			US-PATENT-CLASS-244-163	US-PATENT-CLASS-250-574
		US-PATENT-CLASS-350-96WG			US-PATENT-CLASS-29-432	US-PATENT-CLASS-356-37
		US-PATENT-3,939,439			US-PATENT-CLASS-29-433	US-PATENT-3,945,801
N76-18454*	c 37	NASA-CASE-MFS-23047-1			US-PATENT-CLASS-29-526	N76-21914*
		US-PATENT-APPL-SN-521602			US-PATENT-CLASS-52-705	c 60
		US-PATENT-CLASS-173-132			US-PATENT-CLASS-52-758F	NASA-CASE-NPO-13139-1
		US-PATENT-CLASS-29-81D			US-PATENT-3,936,927	US-PATENT-APPL-SN-393524
		US-PATENT-CLASS-72-453	N76-19785*	c 52	NASA-CASE-LAR-11667-1	US-PATENT-CLASS-235-153AE
		US-PATENT-CLASS-73-399			US-PATENT-APPL-SN-583487	US-PATENT-CLASS-340-172.5
		US-PATENT-3,937,055			US-PATENT-CLASS-128-DIG.20	US-PATENT-3,950,729
N76-18455*	c 37	NASA-CASE-MSC-14435-1			US-PATENT-CLASS-128-26	N76-22154*
		US-PATENT-APPL-SN-450500			US-PATENT-3,937,215	c 02
		US-PATENT-CLASS-228-193	N76-19888*	c 66	NASA-CASE-MFS-22631-1	NASA-CASE-LAR-10585-1
		US-PATENT-CLASS-228-206			US-PATENT-APPL-SN-531572	US-PATENT-APPL-SN-197183
		US-PATENT-CLASS-228-214			US-PATENT-CLASS-340-38P	US-PATENT-CLASS-244-35R
		US-PATENT-CLASS-228-238			US-PATENT-CLASS-356-162	US-PATENT-CLASS-244-40R
		US-PATENT-3,937,387			US-PATENT-CLASS-356-167	US-PATENT-3,952,971
N76-18456*	c 37	* NASA-CASE-LAR-11224-1			US-PATENT-CLASS-356-71	N76-22245*
		US-PATENT-APPL-SN-450502			US-PATENT-3,930,735	c 17
		US-PATENT-CLASS-134-21	N76-19935*	c 74	NASA-CASE-MFS-21672-1	NASA-CASE-GSC-11868-1
		US-PATENT-CLASS-134-37			US-PATENT-APPL-SN-354060	US-PATENT-APPL-SN-565290
		US-PATENT-CLASS-19-205			US-PATENT-CLASS-356-123	US-PATENT-CLASS-178-69.5
		US-PATENT-CLASS-209-250			US-PATENT-CLASS-356-124	US-PATENT-CLASS-328-155
		US-PATENT-CLASS-209-300			US-PATENT-3,938,892	US-PATENT-CLASS-340-147SY
		US-PATENT-CLASS-209-305	N76-20114*	c 04	NASA-CASE-LAR-11387-1	US-PATENT-CLASS-340-207P
		US-PATENT-3,937,661			US-PATENT-APPL-SN-531647	US-PATENT-3,953,674
N76-18457*	c 37	NASA-CASE-NPO-13402-1			US-PATENT-CLASS-33-356	N76-22284*
		US-PATENT-APPL-SN-387342			US-PATENT-CLASS-75-178R	c 19
		US-PATENT-CLASS-123-DIG.12			US-PATENT-3,943,763	NASA-CASE-MFS-22905-1
		US-PATENT-CLASS-123-119E	N76-20480*	c 37	NASA-CASE-NPO-13059-1	US-PATENT-APPL-SN-518545
		US-PATENT-CLASS-123-120			NASA-CASE-NPO-13436-1	US-PATENT-CLASS-188-1B
		US-PATENT-CLASS-123-121			US-PATENT-APPL-SN-513690	US-PATENT-CLASS-248-22
		US-PATENT-CLASS-123-89A			US-PATENT-CLASS-81-56	US-PATENT-CLASS-248-358R
		US-PATENT-3,906,913			US-PATENT-CLASS-81-57.31	US-PATENT-3,952,980
N76-18458*	c 37	NASA-CASE-LEW-11860-1			US-PATENT-3,942,398	N76-22296*
		US-PATENT-APPL-SN-527728			NASA-CASE-ARC-10631-1	c 20
		US-PATENT-CLASS-204-157.1H	N76-20958*	c 74	US-PATENT-APPL-SN-514546	NASA-CASE-MFS-19220-1
		US-PATENT-CLASS-250-527			US-PATENT-CLASS-250-343	US-PATENT-APPL-SN-571821
		US-PATENT-3,939,048			US-PATENT-CLASS-250-573	US-PATENT-CLASS-254-124
N76-18459*	c 37	NASA-CASE-GSC-11551-1			US-PATENT-3,943,368	US-PATENT-CLASS-254-93R
		US-PATENT-APPL-SN-440917			NASA-CASE-NPO-13443-1	US-PATENT-CLASS-89-1.801
		US-PATENT-CLASS-308-10	N76-20994*	c 76	US-PATENT-APPL-SN-522551	US-PATENT-3,952,998
		US-PATENT-3,937,533			US-PATENT-CLASS-324-158D	N76-22309*
		NASA-CASE-NPO-13237-1			US-PATENT-CLASS-324-158R	c 24
N76-18641*	c 44	US-PATENT-APPL-SN-378127			US-PATENT-CLASS-324-158T	NASA-CASE-LEW-11930-1
		US-PATENT-CLASS-136-83R			US-PATENT-CLASS-324-60C	US-PATENT-APPL-SN-513611
		US-PATENT-CLASS-136-86S			US-PATENT-3,943,442	US-PATENT-CLASS-252-12
		US-PATENT-3,894,887	N76-21250*	c 17	NASA-CASE-MSC-12593-1	US-PATENT-3,953,343
N76-18642*	c 44	NASA-CASE-NPO-13464-1			US-PATENT-APPL-SN-419747	N76-22323*
		US-PATENT-APPL-SN-428444			US-PATENT-CLASS-325-14	c 25
		US-PATENT-CLASS-123-3			US-PATENT-CLASS-343-100SA	NASA-CASE-ARC-10760-1
		US-PATENT-CLASS-23-281			US-PATENT-CLASS-343-100ST	US-PATENT-APPL-SN-526438
		US-PATENT-CLASS-423-650			US-PATENT-CLASS-343-112TC	US-PATENT-CLASS-250-343
		US-PATENT-CLASS-48-116			US-PATENT-3,949,400	US-PATENT-CLASS-250-344
		US-PATENT-CLASS-48-117	N76-21275*	c 20	NASA-CASE-MFS-21311-1	US-PATENT-CLASS-250-432R
		US-PATENT-CLASS-48-63			US-PATENT-APPL-SN-493359	US-PATENT-3,953,734
		US-PATENT-CLASS-48-75			US-PATENT-CLASS-244-3.22	N76-22376*
		US-PATENT-CLASS-48-95			US-PATENT-3,948,470	c 27
		US-PATENT-3,920,416	N76-21276*	c 20	NASA-CASE-LEW-11876-1	NASA-CASE-ARC-10721-1
N76-18643*	c 44	NASA-CASE-NPO-11961-1			US-PATENT-APPL-SN-542157	US-PATENT-APPL-SN-427775
		US-PATENT-APPL-SN-378126			US-PATENT-CLASS-29-25.18	US-PATENT-CLASS-264-60
		US-PATENT-CLASS-136-30			US-PATENT-3,947,933	US-PATENT-CLASS-264-63
		US-PATENT-CLASS-136-6LF	N76-21365*	c 32	NASA-CASE-NPO-13568-1	US-PATENT-CLASS-264-66
		US-PATENT-CLASS-320-21			US-PATENT-APPL-SN-534265	US-PATENT-3,952,083
		US-PATENT-CLASS-320-22			US-PATENT-CLASS-343-761	N76-22377*
		US-PATENT-3,912,999			US-PATENT-CLASS-343-781	c 27
N76-18800*	c 60	NASA-CASE-NPO-13067-1			US-PATENT-CLASS-343-786	NASA-CASE-MSC-14270-1
		US-PATENT-APPL-SN-274348			US-PATENT-3,949,404	US-PATENT-APPL-SN-482104
		US-PATENT-CLASS-340-172.5	N76-21366*	c 32	NASA-CASE-MFS-22729-1	US-PATENT-CLASS-106-54
		US-PATENT-3,829,839			US-PATENT-APPL-SN-533608	US-PATENT-CLASS-427-376
N76-18913*	c 74	NASA-CASE-GSC-11877-1			US-PATENT-CLASS-235-156	US-PATENT-CLASS-427-379
		US-PATENT-APPL-SN-482953			US-PATENT-CLASS-325-42	US-PATENT-CLASS-427-380
		US-PATENT-CLASS-235-184			US-PATENT-CLASS-333-18	US-PATENT-CLASS-427-402
		US-PATENT-CLASS-250-199			US-PATENT-3,949,206	US-PATENT-CLASS-428-332
		US-PATENT-3,937,945	N76-21390*	c 33	NASA-CASE-ARC-10711-2	US-PATENT-CLASS-428-428
N76-19338*	c 33	NASA-CASE-NPO-13519-1			US-PATENT-APPL-SN-493363	US-PATENT-CLASS-428-450
		US-PATENT-APPL-SN-536761			US-PATENT-APPL-SN-596788	US-PATENT-CLASS-428-538
		US-PATENT-CLASS-128-2S			US-PATENT-CLASS-317-246	US-PATENT-CLASS-428-920
		US-PATENT-CLASS-33-155R			US-PATENT-CLASS-73-398C	US-PATENT-3,953,646
		US-PATENT-CLASS-33-174D			US-PATENT-3,948,102	N76-22509*
		US-PATENT-CLASS-73-88.5SD			NASA-CASE-LAR-11465-1	c 35
		US-PATENT-3,937,212			US-PATENT-APPL-SN-502137	NASA-CASE-LAR-11434-1
N76-19339*	c 33	NASA-CASE-ARC-10810-1			US-PATENT-CLASS-156-286	US-PATENT-APPL-SN-464722
		US-PATENT-APPL-SN-489009			US-PATENT-CLASS-156-382	US-PATENT-CLASS-209-127R
		US-PATENT-CLASS-204-195R			US-PATENT-CLASS-156-556	US-PATENT-CLASS-317-246
		US-PATENT-CLASS-215-247			US-PATENT-CLASS-248-362	US-PATENT-CLASS-324-61R
		US-PATENT-CLASS-324-30B			US-PATENT-CLASS-248-363	US-PATENT-CLASS-324-71CP
		US-PATENT-3,938,035			US-PATENT-CLASS-269-21	US-PATENT-3,953,792
			N76-21554*	c 37	NASA-CASE-LAR-11465-1	N76-22540*
					US-PATENT-APPL-SN-502137	c 37
					US-PATENT-CLASS-156-286	NASA-CASE-MFS-22636-1
					US-PATENT-CLASS-156-382	US-PATENT-APPL-SN-536762
					US-PATENT-CLASS-156-556	US-PATENT-CLASS-114-16.6
					US-PATENT-CLASS-248-362	US-PATENT-CLASS-244-137P
					US-PATENT-CLASS-248-363	US-PATENT-CLASS-244-158
					US-PATENT-CLASS-269-21	US-PATENT-CLASS-244-161
						US-PATENT-3,952,976
						N76-22541*
						c 37
						NASA-CASE-LEW-11676-1
						US-PATENT-APPL-SN-551184
						US-PATENT-CLASS-277-4
						US-PATENT-CLASS-277-41
						US-PATENT-CLASS-277-74
						US-PATENT-CLASS-277-93R
						US-PATENT-3,953,038
						N76-22657*
						c 44
						NASA-CASE-MFS-22743-1
						US-PATENT-APPL-SN-518684
						US-PATENT-CLASS-126-27.1
						US-PATENT-3,951,129
						N76-22914*
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						NASA-CASE-GSC-12082-1
						US-PATENT-APPL-SN-676958
						N76-22993*
						c 74
						NASA-CASE-ARC-10932-1
						US-PATENT-APPL-SN-681001

N76-23273*	c 09	NASA-CASE-MFS-23099-1 US-PATENT-APPL-SN-607969 US-PATENT-CLASS-73-147 US-PATENT-CLASS-3,952,590	US-PATENT-CLASS-128-203 US-PATENT-CLASS-137-DIG.9 US-PATENT-CLASS-137-110 US-PATENT-CLASS-3,957,044	US-PATENT-APPL-SN-496779 US-PATENT-CLASS-244-46 US-PATENT-CLASS-3,971,535
N76-23426*	c 27	NASA-CASE-MSC-14270-2 US-PATENT-APPL-SN-482105 US-PATENT-CLASS-106-54 US-PATENT-CLASS-427-376 US-PATENT-CLASS-427-379 US-PATENT-CLASS-427-380 US-PATENT-CLASS-427-402 US-PATENT-CLASS-428-332 US-PATENT-CLASS-428-428 US-PATENT-CLASS-428-450 US-PATENT-CLASS-428-538 US-PATENT-CLASS-428-920 US-PATENT-CLASS-3,955,034	N76-25049* c 76 NASA-CASE-LEW-12094-1 US-PATENT-APPL-SN-508784 US-PATENT-CLASS-148-175 US-PATENT-CLASS-156-610 US-PATENT-CLASS-156-612 US-PATENT-CLASS-156-613 US-PATENT-CLASS-252-62.3 US-PATENT-CLASS-423-345 US-PATENT-CLASS-423-346 US-PATENT-CLASS-3,956,032	N76-29347* c 17 NASA-CASE-ARC-10849-1 US-PATENT-APPL-SN-563049 US-PATENT-CLASS-340-189M US-PATENT-CLASS-340-206 US-PATENT-CLASS-73-493 US-PATENT-CLASS-73-517R US-PATENT-CLASS-3,972,038
N76-23570*	c 37	NASA-CASE-LEW-11169-1 US-PATENT-APPL-SN-446568 US-PATENT-CLASS-164-132 US-PATENT-CLASS-3,957,104	N76-26175* c 04 NASA-CASE-MFS-23551-1 US-PATENT-APPL-SN-114772 US-PATENT-CLASS-244-79 US-PATENT-CLASS-74-5.34 US-PATENT-CLASS-3,739,646	N76-29379* c 25 NASA-CASE-LEW-11390-3 US-PATENT-APPL-SN-247434 US-PATENT-APPL-SN-380046 US-PATENT-CLASS-176-11 US-PATENT-CLASS-176-14 US-PATENT-CLASS-176-16 US-PATENT-CLASS-250-400 US-PATENT-CLASS-250-429 US-PATENT-CLASS-250-492R US-PATENT-CLASS-3,971,697
N76-23675*	c 44	NASA-CASE-MFS-21628-2 US-PATENT-APPL-SN-421702 US-PATENT-APPL-SN-561020 US-PATENT-CLASS-126-270 US-PATENT-CLASS-165-133 US-PATENT-CLASS-3,957,030	N76-27232* c 07 NASA-CASE-LAR-11476-1 US-PATENT-APPL-SN-592159 US-PATENT-CLASS-73-557 US-PATENT-CLASS-3,964,319	N76-29551* c 35 NASA-CASE-LAR-10907-1 US-PATENT-APPL-SN-559845 US-PATENT-CLASS-250-340 US-PATENT-CLASS-250-353 US-PATENT-CLASS-3,971,940
N76-23850*	c 60	NASA-CASE-MSC-14082-1 US-PATENT-APPL-SN-315070 US-PATENT-CLASS-340-347DD US-PATENT-CLASS-340-347P US-PATENT-CLASS-3,958,238	N76-27383* c 25 NASA-CASE-LEW-11390-2 US-PATENT-APPL-SN-247434 US-PATENT-APPL-SN-340863 US-PATENT-CLASS-176-11 US-PATENT-CLASS-176-16 US-PATENT-CLASS-423-249 US-PATENT-CLASS-3,966,547	N76-29552* c 35 NASA-CASE-MSC-12617-1 US-PATENT-APPL-SN-513576 US-PATENT-CLASS-235-61NV US-PATENT-CLASS-235-78M US-PATENT-CLASS-235-88M US-PATENT-CLASS-3,971,915
N76-24280*	c 09	NASA-CASE-ARC-10608-1 US-PATENT-APPL-SN-505881 US-PATENT-CLASS-178-DIG.35 US-PATENT-CLASS-178-7.89 US-PATENT-CLASS-35-12N US-PATENT-CLASS-3,956,833	N76-27472* c 33 NASA-CASE-GSC-11924-1 US-PATENT-APPL-SN-582318 US-PATENT-CLASS-343-755 US-PATENT-CLASS-343-779 US-PATENT-CLASS-343-854 US-PATENT-CLASS-3,965,475	N76-29575* c 36 NASA-CASE-NPO-13346-1 US-PATENT-APPL-SN-533556 US-PATENT-CLASS-330-4.3 US-PATENT-CLASS-331-94.5C US-PATENT-CLASS-3,972,008
N76-24363*	c 24	NASA-CASE-GSC-11786-1 US-PATENT-APPL-SN-401919 US-PATENT-CLASS-106-306 US-PATENT-CLASS-250-372 US-PATENT-CLASS-252-300 US-PATENT-CLASS-350-1 US-PATENT-CLASS-3,957,675	N76-27473* c 33 NASA-CASE-HQN-10876-1 US-PATENT-APPL-SN-555336 US-PATENT-CLASS-250-336 US-PATENT-CLASS-250-372 US-PATENT-CLASS-3,965,354	N76-29588* c 37 NASA-CASE-LEW-11949-1 US-PATENT-APPL-SN-590182 US-PATENT-CLASS-308-160 US-PATENT-CLASS-308-163 US-PATENT-CLASS-308-170 US-PATENT-CLASS-3,971,602
N76-24405*	c 27	NASA-CASE-MSC-14331-1 US-PATENT-APPL-SN-374421 US-PATENT-CLASS-106-15FP US-PATENT-CLASS-260-DIG.24 US-PATENT-CLASS-260-33.8F US-PATENT-CLASS-260-45.7 US-PATENT-CLASS-260-92.1 US-PATENT-CLASS-526-1 US-PATENT-CLASS-526-255 US-PATENT-CLASS-3,956,233	N76-27515* c 34 NASA-CASE-NPO-13391-1 US-PATENT-APPL-SN-446567 US-PATENT-CLASS-165-105 US-PATENT-CLASS-29-182 US-PATENT-CLASS-29-193 US-PATENT-CLASS-55-523 US-PATENT-CLASS-55-526 US-PATENT-CLASS-75-225 US-PATENT-CLASS-3,964,902	N76-29590* c 37 NASA-CASE-NPO-13613-1 US-PATENT-APPL-SN-574208 US-PATENT-CLASS-62-6 US-PATENT-CLASS-3,971,230
N76-24523*	c 35	NASA-CASE-LAR-11500-1 US-PATENT-APPL-SN-534266 US-PATENT-CLASS-73-1B US-PATENT-CLASS-73-15.6 US-PATENT-CLASS-3,956,919	N76-27517* c 34 NASA-CASE-ARC-10755-2 US-PATENT-APPL-SN-424013 US-PATENT-APPL-SN-545284 US-PATENT-CLASS-73-147 US-PATENT-CLASS-73-189 US-PATENT-CLASS-73-194R US-PATENT-CLASS-3,964,306	N76-29699* c 44 NASA-CASE-HQN-10862-1 US-PATENT-APPL-SN-604374 US-PATENT-CLASS-136-143 US-PATENT-CLASS-136-30 US-PATENT-CLASS-3,972,727
N76-24524*	c 35	NASA-CASE-NPO-13462-1 US-PATENT-APPL-SN-545282 US-PATENT-CLASS-73-189 US-PATENT-CLASS-73-204 US-PATENT-CLASS-3,956,932	N76-27567* c 37 NASA-CASE-LAR-11709-1 US-PATENT-APPL-SN-548468 US-PATENT-CLASS-339-17M US-PATENT-CLASS-339-18C US-PATENT-CLASS-3,964,813	N76-29700* c 44 NASA-CASE-NPO-13342-2 US-PATENT-APPL-SN-390049 US-PATENT-APPL-SN-548559 US-PATENT-CLASS-123-1A US-PATENT-CLASS-123-3 US-PATENT-CLASS-23-281 US-PATENT-CLASS-423-650 US-PATENT-CLASS-48-215 US-PATENT-CLASS-48-95 US-PATENT-CLASS-3,955,941
N76-24525*	c 35	NASA-CASE-ARC-10816-1 US-PATENT-APPL-SN-552454 US-PATENT-CLASS-128-DIG.4 US-PATENT-CLASS-128-2.05V US-PATENT-CLASS-128-2.1E US-PATENT-CLASS-128-2.1Z US-PATENT-CLASS-3,957,037	N76-27568* c 37 NASA-CASE-LAR-11726-1 US-PATENT-APPL-SN-538047 US-PATENT-CLASS-219-118 US-PATENT-CLASS-219-92 US-PATENT-CLASS-3,967,091	N76-29701* c 44 NASA-CASE-NPO-13567-1 US-PATENT-APPL-SN-566493 US-PATENT-CLASS-417-141 US-PATENT-CLASS-417-207 US-PATENT-CLASS-417-209 US-PATENT-CLASS-417-379 US-PATENT-CLASS-60-517 US-PATENT-CLASS-62-6 US-PATENT-CLASS-3,972,651
N76-24553*	c 36	NASA-CASE-NPO-13531-1 US-PATENT-APPL-SN-531565 US-PATENT-CLASS-331-94.5C US-PATENT-CLASS-350-96WG US-PATENT-CLASS-3,958,188	N76-27664* c 44 NASA-CASE-MFS-23059-1 US-PATENT-APPL-SN-537024 US-PATENT-CLASS-136-86A US-PATENT-CLASS-3,964,928	N76-29704* c 44 NASA-CASE-NPO-13464-2 US-PATENT-APPL-SN-428444 US-PATENT-APPL-SN-553687 US-PATENT-CLASS-252-373 US-PATENT-CLASS-42-215 US-PATENT-CLASS-423-650 US-PATENT-CLASS-431-163 US-PATENT-CLASS-431-210 US-PATENT-CLASS-431-4 US-PATENT-CLASS-48-197R US-PATENT-CLASS-3,971,847
N76-24575*	c 37	NASA-CASE-LAR-10073-1 US-PATENT-APPL-SN-436317 US-PATENT-CLASS-156-242 US-PATENT-CLASS-156-286 US-PATENT-CLASS-264-102 US-PATENT-CLASS-264-267 US-PATENT-CLASS-428-117 US-PATENT-CLASS-3,956,050	N76-28563* c 38 NASA-CASE-NPO-12142-1 US-PATENT-APPL-SN-637249 US-PATENT-CLASS-73-88.5 US-PATENT-CLASS-3,545,262	N76-29891* c 51 NASA-CASE-GSC-11917-2 US-PATENT-APPL-SN-475337 US-PATENT-APPL-SN-555641 US-PATENT-CLASS-195-103.5R US-PATENT-CLASS-3,971,703
N76-24696*	c 44	NASA-CASE-MFS-22744-1 US-PATENT-APPL-SN-518544 US-PATENT-CLASS-126-270 US-PATENT-CLASS-126-271 US-PATENT-CLASS-350-293 US-PATENT-CLASS-350-299 US-PATENT-CLASS-3,958,553	N76-28635* c 44 NASA-CASE-GSC-12022-1 NASA-CASE-GSC-12023-1 US-PATENT-APPL-SN-576488 US-PATENT-CLASS-136-89 US-PATENT-CLASS-148-174 US-PATENT-CLASS-148-175 US-PATENT-CLASS-156-612 US-PATENT-CLASS-156-613 US-PATENT-CLASS-156-614 US-PATENT-CLASS-29-572 US-PATENT-CLASS-357-30 US-PATENT-CLASS-427-113 US-PATENT-CLASS-427-248 US-PATENT-CLASS-427-249 US-PATENT-CLASS-427-250 US-PATENT-CLASS-427-86 US-PATENT-CLASS-3,961,997	N76-29894* c 52 NASA-CASE-ARC-10583-1 US-PATENT-APPL-SN-301418 US-PATENT-CLASS-128-2.1A US-PATENT-CLASS-128-2H US-PATENT-CLASS-128-2P US-PATENT-CLASS-3,971,362
N76-24900*	c 54	NASA-CASE-MSC-14733-1 NASA-CASE-MSC-14735-1 US-PATENT-APPL-SN-522971 US-PATENT-CLASS-128-142.2	N76-29217* c 05 NASA-CASE-ARC-10470-3 US-PATENT-APPL-SN-206279 US-PATENT-APPL-SN-321180	N76-29895* c 52 NASA-CASE-NPO-13644-1 US-PATENT-APPL-SN-574218 US-PATENT-CLASS-128-2.05R US-PATENT-CLASS-128-2S

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N77-13418*	c 37	NASA-CASE-ARC-10905-1 US-PATENT-APPL-SN-618594 US-PATENT-CLASS-219-300 US-PATENT-CLASS-219-304 US-PATENT-CLASS-239-171 US-PATENT-CLASS-252-359A US-PATENT-3,990,987	N77-14735*	c 52	NASA-CASE-MFS-23225-1 US-PATENT-APPL-SN-612965 US-PATENT-CLASS-3-1.2 US-PATENT-CLASS-3-14 US-PATENT-3,995,324	N77-18307*	c 32	NASA-CASE-ARC-10761-1 US-PATENT-APPL-SN-612899 US-PATENT-CLASS-137-15.1 US-PATENT-CLASS-244-53B US-PATENT-4,007,891
N77-14025*	c 07	NASA-CASE-LEW-12419-1 US-PATENT-APPL-SN-579375 US-PATENT-CLASS-416-153 US-PATENT-CLASS-416-160 US-PATENT-CLASS-416-162 US-PATENT-CLASS-416-165 US-PATENT-CLASS-416-167 US-PATENT-CLASS-60-226R US-PATENT-3,994,128	N77-14736*	c 52	NASA-CASE-ARC-11007-1 US-PATENT-APPL-SN-652948 US-PATENT-CLASS-128-2H US-PATENT-CLASS-128-379 US-PATENT-CLASS-128-400 US-PATENT-CLASS-128-402 US-PATENT-3,995,621	N77-18382*	c 34	NASA-CASE-LAR-10805-2 US-PATENT-APPL-SN-428992 US-PATENT-APPL-SN-578240 US-PATENT-CLASS-244-117A US-PATENT-CLASS-427-160 US-PATENT-CLASS-427-322 US-PATENT-CLASS-428-35 US-PATENT-CLASS-428-421 US-PATENT-CLASS-428-461 US-PATENT-CLASS-428-474 US-PATENT-4,008,348
N77-14292*	c 32	NASA-CASE-LAR-11607-1 US-PATENT-APPL-SN-617895 US-PATENT-CLASS-325-145 US-PATENT-CLASS-332-22 US-PATENT-CLASS-332-23R US-PATENT-3,996,532	N77-14737*	c 52	NASA-CASE-MSC-14276-1 US-PATENT-APPL-SN-557430 US-PATENT-CLASS-250-363R US-PATENT-CLASS-250-444 US-PATENT-CLASS-250-498 US-PATENT-3,996,471	N77-18417*	c 35	NASA-CASE-ARC-10898-1 US-PATENT-APPL-SN-625732 US-PATENT-CLASS-73-12 US-PATENT-CLASS-73-432SD US-PATENT-CLASS-73-71.6 US-PATENT-4,007,623
N77-14333*	c 33	NASA-CASE-GSC-11789-1 US-PATENT-APPL-SN-538982 US-PATENT-CLASS-317-31 US-PATENT-CLASS-321-13 US-PATENT-3,996,506	N77-14738*	c 52	NASA-CASE-KSC-10849-1 US-PATENT-APPL-SN-613734 US-PATENT-CLASS-128-418 US-PATENT-CLASS-3-1.1 US-PATENT-CLASS-339-252R US-PATENT-3,995,644	N77-18891*	c 73	NASA-CASE-NPO-13121-1 US-PATENT-APPL-SN-294727 US-PATENT-CLASS-310-4R US-PATENT-CLASS-313-311 US-PATENT-CLASS-346R US-PATENT-4,008,407
N77-14334*	c 33	NASA-CASE-GSC-12018-1 US-PATENT-APPL-SN-635531 US-PATENT-CLASS-329-122 US-PATENT-CLASS-329-124 US-PATENT-CLASS-331-23 US-PATENT-CLASS-331-36C US-PATENT-CLASS-332-30V US-PATENT-3,997,848	N77-14751*	c 60	NASA-CASE-GSC-11839-1 US-PATENT-APPL-SN-468614 US-PATENT-CLASS-235-152 US-PATENT-CLASS-250-227 US-PATENT-CLASS-340-172.5 US-PATENT-CLASS-350-96R US-PATENT-3,996,455	N77-18893*	c 74	NASA-CASE-MSC-14683-1 US-PATENT-APPL-SN-612967 US-PATENT-CLASS-358-44 US-PATENT-4,004,292
N77-14335*	c 33	NASA-CASE-MFS-22560-1 US-PATENT-APPL-SN-589233 US-PATENT-CLASS-250-214A US-PATENT-CLASS-330-14 US-PATENT-CLASS-330-28 US-PATENT-CLASS-330-59 US-PATENT-3,996,462	N77-17029*	c 05	NASA-CASE-ARC-10807-1 US-PATENT-APPL-SN-513612 US-PATENT-CLASS-416-104 US-PATENT-CLASS-416-138 US-PATENT-CLASS-416-141 US-PATENT-3,999,886	N77-19056*	c 04	NASA-CASE-LAR-11387-2 US-PATENT-APPL-SN-531647 US-PATENT-APPL-SN-623156 US-PATENT-CLASS-33-356 US-PATENT-CLASS-73-178R US-PATENT-4,006,631
N77-14406*	c 35	NASA-CASE-NPO-13663-1 US-PATENT-APPL-SN-634205 US-PATENT-CLASS-250-289 US-PATENT-CLASS-250-298 US-PATENT-3,996,464	N77-17059*	c 07	NASA-CASE-LEW-12760-1 US-PATENT-APPL-SN-569925 US-PATENT-CLASS-60-226A US-PATENT-CLASS-60-228 US-PATENT-4,005,574	N77-19076*	c 09	NASA-CASE-ARC-10979-1 US-PATENT-APPL-SN-608483 US-PATENT-CLASS-124-6 US-PATENT-CLASS-244-63 US-PATENT-3,989,206
N77-14407*	c 35	NASA-CASE-LAR-11648-1 US-PATENT-APPL-SN-645571 US-PATENT-CLASS-73-133R US-PATENT-3,995,476	N77-17143*	c 20	NASA-CASE-XLA-01349 US-PATENT-APPL-SN-256493 US-PATENT-APPL-SN-54552 US-PATENT-CLASS-102-49.3 US-PATENT-CLASS-264-3R US-PATENT-CLASS-86-1R US-PATENT-CLASS-86-20R US-PATENT-4,000,682	N77-19170*	c 24	NASA-CASE-LEW-12550-1 US-PATENT-APPL-SN-596905 US-PATENT-CLASS-416-224 US-PATENT-CLASS-416-230 US-PATENT-4,006,999
N77-14408*	c 35	NASA-CASE-ARC-10448-3 US-PATENT-APPL-SN-221670 US-PATENT-APPL-SN-318848 US-PATENT-CLASS-250-396 US-PATENT-3,996,468	N77-17161*	c 23	NASA-CASE-MSC-14428-1 US-PATENT-APPL-SN-450504 US-PATENT-CLASS-23-230B US-PATENT-CLASS-23-230M US-PATENT-CLASS-23-230R US-PATENT-CLASS-23-231 US-PATENT-CLASS-23-232C US-PATENT-CLASS-23-232R US-PATENT-CLASS-23-254R US-PATENT-CLASS-55-197 US-PATENT-CLASS-55-67 US-PATENT-CLASS-55-74 US-PATENT-CLASS-73-23.1 US-PATENT-CLASS-73-61.1C US-PATENT-4,003,257	N77-19171*	c 24	NASA-CASE-LEW-12619-1 US-PATENT-APPL-SN-462424 US-PATENT-CLASS-204-16 US-PATENT-CLASS-204-40 US-PATENT-CLASS-204-9 US-PATENT-CLASS-29-527.2 US-PATENT-3,989,602
N77-14409*	c 35	NASA-CASE-NPO-13540-1 US-PATENT-APPL-SN-526450 US-PATENT-CLASS-136-232 US-PATENT-CLASS-136-233 US-PATENT-3,996,070	N77-17351*	c 33	NASA-CASE-MFS-23181-1 US-PATENT-APPL-SN-566495 US-PATENT-CLASS-331-114 US-PATENT-CLASS-331-177V US-PATENT-CLASS-332-18 US-PATENT-CLASS-332-30V US-PATENT-4,003,004	N77-19353*	c 34	NASA-CASE-ARC-10912-1 US-PATENT-APPL-SN-623187 US-PATENT-CLASS-62-100 US-PATENT-CLASS-62-121 US-PATENT-CLASS-62-269 US-PATENT-CLASS-62-315 US-PATENT-4,007,601
N77-14411*	c 35	NASA-CASE-NPO-13683-1 US-PATENT-APPL-SN-599284 US-PATENT-CLASS-250-343 US-PATENT-CLASS-356-201 US-PATENT-CLASS-356-204 US-PATENT-CLASS-356-97 US-PATENT-3,995,960	N77-17354*	c 33	NASA-CASE-LEW-11881-1 US-PATENT-APPL-SN-598968 US-PATENT-CLASS-307-229 US-PATENT-CLASS-307-230 US-PATENT-CLASS-328-161 US-PATENT-4,001,602	N77-19385*	c 35	NASA-CASE-MSC-14653-1 US-PATENT-APPL-SN-521816 US-PATENT-CLASS-177-1 US-PATENT-CLASS-177-208 US-PATENT-CLASS-73-432R US-PATENT-3,988,933
N77-14477*	c 37	NASA-CASE-FRC-10081-1 US-PATENT-APPL-SN-598504 US-PATENT-CLASS-280-432 US-PATENT-3,995,877	N77-17426*	c 35	NASA-CASE-MFS-22671-2 US-PATENT-APPL-SN-419831 US-PATENT-APPL-SN-561955 US-PATENT-CLASS-360-25 US-PATENT-CLASS-360-31 US-PATENT-4,003,084	N77-19416*	c 36	NASA-CASE-XNP-04167-3 US-PATENT-APPL-SN-170544 US-PATENT-APPL-SN-479357 US-PATENT-CLASS-331-94.5D US-PATENT-CLASS-331-94.5G US-PATENT-CLASS-331-94.5PE US-PATENT-4,007,430
N77-14478*	c 37	NASA-CASE-LAR-11658-1 US-PATENT-APPL-SN-625759 US-PATENT-CLASS-83-451 US-PATENT-CLASS-83-467R US-PATENT-3,995,522	N77-17464*	c 37	NASA-CASE-GSC-11978-1 US-PATENT-APPL-SN-593142 US-PATENT-CLASS-308-10 US-PATENT-4,000,929	N77-19457*	c 37	NASA-CASE-MFS-15218-1 US-PATENT-APPL-SN-387094 US-PATENT-CLASS-197-188 US-PATENT-CLASS-197-190 US-PATENT-3,989,136
N77-14479*	c 37	NASA-CASE-GSC-11960-1 US-PATENT-APPL-SN-629456 US-PATENT-CLASS-242-187 US-PATENT-CLASS-242-193 US-PATENT-CLASS-242-204 US-PATENT-CLASS-242-210 US-PATENT-CLASS-242-57 US-PATENT-3,995,789	N77-17495*	c 38	NASA-CASE-GSC-11902-1	N77-19458*	c 37	NASA-CASE-GSC-11883-1 NASA-CASE-GSC-11974-1 NASA-CASE-GSC-11975-1
N77-14580*	c 44	NASA-CASE-LEW-11496-1 US-PATENT-APPL-SN-645508 US-PATENT-CLASS-136-89 US-PATENT-CLASS-204-192						

		US-PATENT-APPL-SN-596787			US-PATENT-APPL-SN-841278			US-PATENT-CLASS-60-39.28R
		US-PATENT-CLASS-310-4A			US-PATENT-CLASS-313-175			US-PATENT-CLASS-60-39.66
		US-PATENT-CLASS-337-334			US-PATENT-CLASS-313-180			US-PATENT-4.020.632
		US-PATENT-CLASS-340-224			US-PATENT-CLASS-313-184	N77-23482*	c 37	NASA-CASE-LAR-11563-1
		US-PATENT-CLASS-60-527			US-PATENT-CLASS-315-108			US-PATENT-APPL-SN-672815
		US-PATENT-CLASS-75-122.7			US-PATENT-CLASS-315-110			US-PATENT-CLASS-29-DIG.35
		US-PATENT-CLASS-75-170			US-PATENT-3.621.330			US-PATENT-CLASS-29-447
		US-PATENT-4.010.455	N77-21392*	c 35	NASA-CASE-NPO-10711-1			US-PATENT-CLASS-403-273
N77-19571*	c 44	NASA-CASE-LEW-11549-1			US-PATENT-APPL-SN-844315			US-PATENT-CLASS-53-9
		US-PATENT-APPL-SN-510677			US-PATENT-CLASS-179-100.2C			US-PATENT-4.017.959
		US-PATENT-CLASS-136-89			US-PATENT-3.697.705	N77-23483*	c 37	NASA-CASE-MFS-23088-1
		US-PATENT-3.989.541	N77-21393*	c 35	NASA-CASE-NPO-10619-1			US-PATENT-APPL-SN-602617
N77-19760*	c 60	NASA-CASE-ARC-10899-1			US-PATENT-APPL-SN-757017			US-PATENT-CLASS-213-81
		US-PATENT-APPL-SN-576774			US-PATENT-CLASS-338-25			US-PATENT-CLASS-214-1CM
		US-PATENT-CLASS-178-69.5R			US-PATENT-3.555.483			US-PATENT-CLASS-244-161
		US-PATENT-CLASS-179-15BS	N77-21844*	c 54	NASA-CASE-MFS-23074-1			US-PATENT-4.018.409
		US-PATENT-CLASS-340-172.5			US-PATENT-APPL-SN-623188	N77-24328*	c 32	NASA-CASE-ARC-10984-1
		US-PATENT-3.990.049			US-PATENT-CLASS-188-291			US-PATENT-APPL-SN-690815
N77-20162*	c 20	NASA-CASE-LEW-12048-1			US-PATENT-CLASS-254-158			US-PATENT-CLASS-358-133
		US-PATENT-APPL-SN-665033			US-PATENT-4.018.423			US-PATENT-CLASS-358-138
		US-PATENT-CLASS-313-230	N77-21941*	c 74	NASA-CASE-NPO-11429-1			US-PATENT-4.025.950
		US-PATENT-CLASS-313-231.3			US-PATENT-APPL-SN-95189	N77-24331*	c 32	NASA-CASE-MSC-14840-1
		US-PATENT-CLASS-313-360			US-PATENT-CLASS-240-41.35R			US-PATENT-APPL-SN-692414
		US-PATENT-CLASS-315-111.3			US-PATENT-CLASS-240-41R			US-PATENT-CLASS-178-88
		US-PATENT-CLASS-315-111.6			US-PATENT-CLASS-240-46.13			US-PATENT-CLASS-325-346
		US-PATENT-CLASS-60-202			US-PATENT-CLASS-356-236			US-PATENT-CLASS-329-104
		US-PATENT-4.011.719			US-PATENT-3.711.701			US-PATENT-CLASS-329-122
N77-20201*	c 26	NASA-CASE-LEW-12245-1	N77-22386*	c 33	NASA-CASE-NPO-10870-1			US-PATENT-4.027.265
		US-PATENT-APPL-SN-584094			NASA-CASE-NPO-11191-1	N77-24375*	c 33	NASA-CASE-MSC-12709-1
		US-PATENT-CLASS-148-12.7N			NASA-CASE-NPO-11403-1			US-PATENT-APPL-SN-630583
		US-PATENT-CLASS-148-162			US-PATENT-APPL-SN-108810			US-PATENT-CLASS-307-225R
		US-PATENT-CLASS-148-2			US-PATENT-CLASS-313-146			US-PATENT-CLASS-328-38
		US-PATENT-CLASS-148-20.3			US-PATENT-CLASS-313-182			US-PATENT-CLASS-328-39
		US-PATENT-CLASS-148-32.5			US-PATENT-CLASS-313-60			US-PATENT-CLASS-328-4-8
		US-PATENT-CLASS-75-170			US-PATENT-3.736.453			US-PATENT-CLASS-328-63
		US-PATENT-4.012.237	N77-22449*	c 35	NASA-CASE-LAR-11825-1			US-PATENT-4.025.866
N77-20289*	c 32	NASA-CASE-NPO-13753-1			US-PATENT-APPL-SN-632112	N77-24423*	c 34	NASA-CASE-LAR-12045-1
		US-PATENT-APPL-SN-658449			US-PATENT-CLASS-73-88R			US-PATENT-APPL-SN-682416
		US-PATENT-CLASS-325-4			US-PATENT-4.018.085			US-PATENT-CLASS-259-4R
		US-PATENT-CLASS-343-100ST	N77-22450*	c 35	NASA-CASE-MFS-23281-1			US-PATENT-CLASS-261-DIG.75
		US-PATENT-CLASS-343-6.BR			US-PATENT-APPL-SN-657995			US-PATENT-CLASS-261-123
		US-PATENT-CLASS-343-6.5R			US-PATENT-CLASS-73-15.6			US-PATENT-4.026.527
		US-PATENT-4.012.696			US-PATENT-CLASS-73-95	N77-24454*	c 35	NASA-CASE-ARC-10900-1
N77-20399*	c 35	NASA-CASE-ARC-10716-1			US-PATENT-4.018.080			US-PATENT-APPL-SN-630579
		US-PATENT-APPL-SN-403695	N77-22479*	c 37	NASA-CASE-NPO-10316-1			US-PATENT-CLASS-338-229
		US-PATENT-CLASS-235-150.2			US-PATENT-APPL-SN-703107			US-PATENT-CLASS-338-28
		US-PATENT-CLASS-235-150.25			US-PATENT-CLASS-60-53			US-PATENT-4.025.891
		US-PATENT-CLASS-244-165			US-PATENT-3.478.514	N77-24455*	c 35	NASA-CASE-GSC-12077-1
		US-PATENT-CLASS-244-171			NASA-CASE-NPO-13058-1			US-PATENT-APPL-SN-635519
		US-PATENT-CLASS-244-3.21			NASA-CASE-NPO-13096-1			US-PATENT-CLASS-65-108
		US-PATENT-4.012.018			US-PATENT-APPL-SN-403154			US-PATENT-CLASS-65-59A
N77-20400*	c 35	NASA-CASE-ARC-10911-1			US-PATENT-CLASS-214-16.1CB			US-PATENT-CLASS-6554
		US-PATENT-APPL-SN-610802			US-PATENT-3.896.955			US-PATENT-CLASS-6564
		US-PATENT-CLASS-338-28	N77-22482*	c 37	NASA-CASE-MSC-19536-1			US-PATENT-4.025.327
		US-PATENT-CLASS-73-204			US-PATENT-APPL-SN-658450	N77-25499*	c 36	NASA-CASE-GSC-11571-1
		US-PATENT-4.011.756			US-PATENT-CLASS-74-96			US-PATENT-APPL-SN-646704
N77-20401*	c 35	NASA-CASE-MFS-23267-1			US-PATENT-4.018.092			US-PATENT-CLASS-331-94.5S
		US-PATENT-APPL-SN-653422	N77-22606*	c 44	NASA-CASE-LEW-12364-1			US-PATENT-4.025.875
		US-PATENT-CLASS-126-270			US-PATENT-APPL-SN-707124	N77-25501*	c 36	NASA-CASE-ARC-10970-1
		US-PATENT-CLASS-126-271			US-PATENT-CLASS-253-317			US-PATENT-APPL-SN-691046
		US-PATENT-CLASS-250-203R			US-PATENT-CLASS-429-105			US-PATENT-CLASS-250-574
		US-PATENT-4.011.854			US-PATENT-CLASS-429-107			US-PATENT-CLASS-350-100
N77-20882*	c 74	NASA-CASE-LAR-11782-1			US-PATENT-CLASS-429-190			US-PATENT-CLASS-350-102
		US-PATENT-APPL-SN-608482			US-PATENT-4.018.971			US-PATENT-CLASS-356-28
		US-PATENT-CLASS-350-145	N77-22607*	c 44	NASA-CASE-LAR-11361-1			US-PATENT-4.026.655
		US-PATENT-CLASS-350-174			US-PATENT-APPL-SN-669928	N77-25502*	c 36	NASA-CASE-NPO-13147-1
		US-PATENT-4.012.123			US-PATENT-CLASS-23-277R			US-PATENT-APPL-SN-317310
N77-21267*	c 32	NASA-CASE-LAR-11390-1			US-PATENT-CLASS-23-281			US-PATENT-CLASS-330-4.3
		US-PATENT-APPL-SN-662176			US-PATENT-CLASS-423-648R			US-PATENT-CLASS-331-94.5D
		US-PATENT-CLASS-340-5H			US-PATENT-CLASS-55-158			US-PATENT-CLASS-331-94.5P
		US-PATENT-CLASS-343-18B			US-PATENT-4.019.868			US-PATENT-4.027.273
		US-PATENT-CLASS-343-5CM	N77-22794*	c 51	NASA-CASE-GSC-12039-1	N77-25769*	c 51	NASA-CASE-LAR-10773-3
		US-PATENT-CLASS-343-5MM			US-PATENT-APPL-SN-572991			US-PATENT-APPL-SN-125235
		US-PATENT-4.019.179			US-PATENT-CLASS-195-103.5K			US-PATENT-APPL-SN-314656
N77-21314*	c 33	NASA-CASE-NPO-10189-1			US-PATENT-CLASS-195-103.5R			US-PATENT-APPL-SN-623238
		NASA-CASE-NPO-10781-1			US-PATENT-4.014.745			US-PATENT-CLASS-195-1.8
		US-PATENT-APPL-SN-744522	N77-22950*	c 74	NASA-CASE-ARC-10976-1			US-PATENT-4.018.649
		US-PATENT-CLASS-307-232			US-PATENT-APPL-SN-665032	N77-25772*	c 52	NASA-CASE-KSC-11030-1
		US-PATENT-CLASS-307-238			US-PATENT-CLASS-356-171			US-PATENT-APPL-SN-709849
		US-PATENT-CLASS-307-280			US-PATENT-4.018.533			US-PATENT-CLASS-128-1R
		US-PATENT-CLASS-329-119	N77-22951*	c 74	NASA-CASE-NPO-13722-1			US-PATENT-CLASS-3-1
		US-PATENT-CLASS-329-205			US-PATENT-APPL-SN-616472			US-PATENT-CLASS-339.12R
		US-PATENT-CLASS-332-16			US-PATENT-CLASS-250-203R			US-PATENT-4.025.964
		US-PATENT-CLASS-332-30			US-PATENT-CLASS-250-211K	N77-26385*	c 33	NASA-CASE-LEW-11978-1
		US-PATENT-CLASS-332-52			US-PATENT-CLASS-356-141			US-PATENT-APPL-SN-708658
		US-PATENT-3.582.828			US-PATENT-CLASS-356-152			US-PATENT-CLASS-204-32A
N77-21315*	c 33	NASA-CASE-NPO-11510-1			US-PATENT-CLASS-356-172			US-PATENT-CLASS-29-597
		US-PATENT-APPL-SN-173178			US-PATENT-4.018.532			US-PATENT-CLASS-29-622
		US-PATENT-APPL-SN-385059	N77-23106*	c 07	NASA-CASE-LEW-12830-1			US-PATENT-CLASS-29-628
		US-PATENT-CLASS-313-161			US-PATENT-APPL-SN-596641			US-PATENT-CLASS-29-630E
		US-PATENT-CLASS-313-184			US-PATENT-APPL-SN-655149			US-PATENT-4.023.266
		US-PATENT-CLASS-313-224			US-PATENT-CLASS-123-122E	N77-26386*	c 33	NASA-CASE-GSC-11824-1
		US-PATENT-CLASS-313-32			US-PATENT-CLASS-123-41.33			US-PATENT-APPL-SN-583486
		US-PATENT-CLASS-315-344			US-PATENT-CLASS-137-101			US-PATENT-CLASS-318-138
		US-PATENT-3.881.132			US-PATENT-CLASS-415-180			US-PATENT-CLASS-318-227
N77-21316*	c 33	NASA-CASE-NPO-10790-1			US-PATENT-CLASS-60-39.03			US-PATENT-CLASS-318-254

N77-26387*	c 33	US-PATENT-4,027,212	N77-28225*	c 24	US-PATENT-4,033,119	N77-30309*	c 32	NASA-CASE-GSC-11898-1
		NASA-CASE-LAR-11389-1			NASA-CASE-MS-C-12631-1			US-PATENT-APPL-SN-566494
N77-26477*	c 36	US-PATENT-APPL-SN-229143	N77-28265*	c 26	US-PATENT-APPL-SN-568541	N77-30365*	c 33	US-PATENT-CLASS-179-1SA
		US-PATENT-APPL-SN-340862			US-PATENT-CLASS-156-229			US-PATENT-CLASS-179-1SP
N77-26919*	c 71	US-PATENT-CLASS-310-111	N77-28346*	c 32	US-PATENT-CLASS-244-123	N77-30399*	c 34	US-PATENT-4,039,754
		US-PATENT-CLASS-310-168			US-PATENT-CLASS-428-141			NASA-CASE-NPO-13812-1
N77-26942*	c 74	US-PATENT-CLASS-322-96	N77-28385*	c 33	US-PATENT-CLASS-428-161	N77-30436*	c 35	US-PATENT-APPL-SN-694855
		US-PATENT-3,849,720			US-PATENT-CLASS-428-425			US-PATENT-CLASS-307-64
N77-27116*	c 07	US-PATENT-CLASS-428-457	N77-28486*	c 37	US-PATENT-CLASS-428-458	N77-30749*	c 54	US-PATENT-CLASS-363-53
		NASA-CASE-NPO-13550-1			US-PATENT-CLASS-428-458			US-PATENT-CLASS-363-70
N77-27131*	c 09	US-PATENT-APPL-SN-483301	N77-28487*	c 37	US-PATENT-4,032,089	N77-31308*	c 27	US-PATENT-4,039,925
		US-PATENT-CLASS-250-281			NASA-CASE-LEW-11573-1			NASA-CASE-MFS-19287-1
N77-27187*	c 24	US-PATENT-CLASS-250-282	N77-28511*	c 39	US-PATENT-APPL-SN-625733	N77-31350*	c 32	US-PATENT-APPL-SN-641802
		US-PATENT-CLASS-250-283			US-PATENT-CLASS-228-190			US-PATENT-CLASS-137-207
N77-27345*	c 34	US-PATENT-CLASS-250-423P	N77-28716*	c 52	US-PATENT-CLASS-228-194	N77-31404*	c 33	US-PATENT-CLASS-137-209
		US-PATENT-4,031,389			US-PATENT-CLASS-228-232			US-PATENT-CLASS-60-259
N77-27366*	c 35	NASA-CASE-NPO-13673-1	N77-28717*	c 52	US-PATENT-CLASS-4,033,504	N77-31465*	c 35	US-PATENT-CLASS-62-55
		US-PATENT-APPL-SN-613004			NASA-CASE-GSC-12053-1			US-PATENT-4,039,000
N77-27367*	c 35	US-PATENT-CLASS-330-5.5	N77-28932*	c 74	US-PATENT-APPL-SN-667930	N77-31497*	c 37	NASA-CASE-MFS-23175-1
		US-PATENT-CLASS-331-107A			US-PATENT-CLASS-250-199			US-PATENT-APPL-SN-667928
N77-27368*	c 35	US-PATENT-CLASS-333-72	N77-28933*	c 74	US-PATENT-CLASS-250-238	N77-31601*	c 44	US-PATENT-CLASS-324-163
		US-PATENT-4,025,876			US-PATENT-4,033,882			US-PATENT-CLASS-324-165
N77-27400*	c 37	NASA-CASE-GSC-12058-1	N77-29260*	c 26	NASA-CASE-LEW-12444-1	N77-32148*	c 07	US-PATENT-CLASS-324-174
		US-PATENT-APPL-SN-680938			US-PATENT-APPL-SN-583485			US-PATENT-CLASS-340-271
N77-27677*	c 51	US-PATENT-CLASS-250-199	N77-30236*	c 27	US-PATENT-CLASS-123-148CB	N77-32255*	c 25	US-PATENT-CLASS-340-347P
		US-PATENT-4,025,876			US-PATENT-CLASS-123-148E			US-PATENT-CLASS-340-347SY
N77-28118*	c 07	US-PATENT-CLASS-416-220R	N77-30308*	c 32	US-PATENT-CLASS-315-176	N77-32279*	c 26	US-PATENT-4,039,946
		US-PATENT-CLASS-416-221			US-PATENT-4,033,316			NASA-CASE-KSC-11004-1
		US-PATENT-4,033,705			NASA-CASE-LEW-11158-1			US-PATENT-APPL-SN-710032
		NASA-CASE-LAR-11883-1			US-PATENT-APPL-SN-663008			US-PATENT-CLASS-3-2
		US-PATENT-APPL-SN-662175			US-PATENT-CLASS-308-5R			US-PATENT-CLASS-3-21
		US-PATENT-CLASS-73-15R			US-PATENT-CLASS-308-73			US-PATENT-4,038,705
		US-PATENT-4,027,524			US-PATENT-CLASS-308-9			NASA-CASE-NPO-11609-2
		NASA-CASE-MFS-22926-1			US-PATENT-4,035,037			US-PATENT-APPL-SN-228229
		US-PATENT-APPL-SN-557565			NASA-CASE-MS-C-14905-1			US-PATENT-APPL-SN-674700
		US-PATENT-CLASS-164-60			US-PATENT-APPL-SN-708795			US-PATENT-CLASS-210-DIG.27
		US-PATENT-CLASS-75-135			US-PATENT-CLASS-128-DIG.12			US-PATENT-CLASS-210-40
		US-PATENT-CLASS-75-139			US-PATENT-CLASS-128-214F			US-PATENT-CLASS-260-2.5A
		US-PATENT-CLASS-75-65R			US-PATENT-CLASS-222-61			US-PATENT-CLASS-260-2.5AM
		US-PATENT-4,029,500			US-PATENT-CLASS-222-95			US-PATENT-CLASS-260-2.5AY
		NASA-CASE-LEW-12118-1			US-PATENT-4,033,479			US-PATENT-CLASS-260-77.5AP
		US-PATENT-APPL-SN-616332			NASA-CASE-MFS-23299-1			US-PATENT-4,039,489
		US-PATENT-CLASS-428-301			US-PATENT-APPL-SN-700673			NASA-CASE-GSC-12075-1
		US-PATENT-CLASS-428-328			US-PATENT-CLASS-73-67.7			US-PATENT-APPL-SN-562499
		US-PATENT-CLASS-428-368			US-PATENT-CLASS-73-88R			US-PATENT-CLASS-343-17.7
		US-PATENT-CLASS-428-418			US-PATENT-4,033,182			US-PATENT-4,042,926
		US-PATENT-CLASS-428-457			NASA-CASE-LEW-12258-1			NASA-CASE-ARC-10897-1
		US-PATENT-CLASS-428-902			US-PATENT-APPL-SN-676433			US-PATENT-APPL-SN-625781
		US-PATENT-CLASS-428-911			US-PATENT-CLASS-128-1R			US-PATENT-CLASS-323-93
		US-PATENT-4,029,838			US-PATENT-CLASS-128-303R			US-PATENT-CLASS-324-60
		NASA-CASE-ARC-10974-1			US-PATENT-4,033,349			US-PATENT-CLASS-340-200
		US-PATENT-APPL-SN-667010			NASA-CASE-MS-C-14623-1			US-PATENT-CLASS-340-347SH
		US-PATENT-CLASS-73-189			US-PATENT-APPL-SN-637269			US-PATENT-4,040,041
		US-PATENT-CLASS-73-228			US-PATENT-CLASS-128-DIG.4			NASA-CASE-MFS-23118-1
		US-PATENT-4,028,939			US-PATENT-CLASS-128-2.1E			US-PATENT-APPL-SN-691256
		NASA-CASE-GSC-12059-1			US-PATENT-CLASS-128-410			US-PATENT-CLASS-356-212
		US-PATENT-APPL-SN-680957			US-PATENT-4,033,334			US-PATENT-4,040,750
		US-PATENT-CLASS-331-94.5D			NASA-CASE-GSC-11989-1			NASA-CASE-NPO-13671-1
		US-PATENT-CLASS-331-94.5T			US-PATENT-APPL-SN-645500			US-PATENT-APPL-SN-564622
		US-PATENT-CLASS-350-253			US-PATENT-CLASS-350-162SF			US-PATENT-CLASS-123-DIG.8
		US-PATENT-4,030,047			US-PATENT-CLASS-350-202			US-PATENT-CLASS-123-119A
		NASA-CASE-NPO-11103-1			US-PATENT-CLASS-350-299			US-PATENT-CLASS-123-122AB
		US-PATENT-APPL-SN-3654			US-PATENT-4,035,062			US-PATENT-CLASS-123-3
		US-PATENT-CLASS-73-84			NASA-CASE-NPO-13707-1			US-PATENT-CLASS-123-37
		US-PATENT-3,623,359			US-PATENT-APPL-SN-617202			US-PATENT-CLASS-123-59E
		NASA-CASE-MS-C-12327-1			US-PATENT-CLASS-350-288			US-PATENT-4,041,910
		US-PATENT-APPL-SN-19572			US-PATENT-CLASS-350-310			NASA-CASE-LEW-12587-1
		US-PATENT-CLASS-73-362AR			US-PATENT-CLASS-350-320			US-PATENT-APPL-SN-717319
		US-PATENT-3,613,454			US-PATENT-4,035,065			US-PATENT-CLASS-136-89AC
		NASA-CASE-GSC-11063-1			NASA-CASE-MFS-23405-1			US-PATENT-CLASS-136-89P
		US-PATENT-APPL-SN-41431			US-PATENT-APPL-SN-718267			US-PATENT-CLASS-52-173R
		US-PATENT-CLASS-318-267			US-PATENT-CLASS-228-124			US-PATENT-CLASS-52-51
		US-PATENT-CLASS-318-468			US-PATENT-CLASS-228-263			US-PATENT-4,040,867
		US-PATENT-CLASS-318-470			US-PATENT-4,033,503			NASA-CASE-LEW-12312-1
		US-PATENT-CLASS-318-675			NASA-CASE-NPO-13620-1			US-PATENT-APPL-SN-654787
		US-PATENT-3,628,113			US-PATENT-APPL-SN-666992			US-PATENT-CLASS-416-135
		NASA-CASE-LAR-11649-1			US-PATENT-CLASS-210-24			US-PATENT-CLASS-416-190
		US-PATENT-APPL-SN-626942			US-PATENT-CLASS-536-105			US-PATENT-CLASS-416-193A
		US-PATENT-CLASS-118-313			US-PATENT-CLASS-536-85			US-PATENT-CLASS-416-241A
		US-PATENT-CLASS-118-6			US-PATENT-CLASS-536-56			US-PATENT-4,045,149
		US-PATENT-CLASS-118-7			US-PATENT-CLASS-536-58			NASA-CASE-NPO-13566-1
		US-PATENT-CLASS-118-9			US-PATENT-CLASS-536-84			US-PATENT-APPL-SN-653316
		US-PATENT-CLASS-23-253A			US-PATENT-4,041,233			US-PATENT-CLASS-204-DIG.11
		US-PATENT-CLASS-23-259			NASA-CASE-MFS-23345-1			US-PATENT-CLASS-204-157.1R
		US-PATENT-CLASS-23-292			US-PATENT-APPL-SN-696989			US-PATENT-CLASS-204-158R
		US-PATENT-CLASS-424-3			US-PATENT-CLASS-106-292			US-PATENT-CLASS-204-162R
		US-PATENT-CLASS-427-4			US-PATENT-CLASS-106-296			US-PATENT-CLASS-250-527
		US-PATENT-CLASS-8-3			US-PATENT-CLASS-106-299			US-PATENT-4,045,359
		US-PATENT-CLASS-8-94.11			US-PATENT-4,039,347			NASA-CASE-LEW-12906-1
		US-PATENT-4,029,470			NASA-CASE-GSC-12017-1			US-PATENT-APPL-SN-691936
		NASA-CASE-LAR-11310-1			US-PATENT-APPL-SN-645510			US-PATENT-CLASS-148-32
		US-PATENT-APPL-SN-394898			US-PATENT-CLASS-325-30			US-PATENT-CLASS-75-170
		US-PATENT-CLASS-415-145			US-PATENT-CLASS-325-42			US-PATENT-4,045,255
		US-PATENT-CLASS-60-226R			US-PATENT-CLASS-325-473			NASA-CASE-LEW-12270-1
		US-PATENT-CLASS-60-263			US-PATENT-CLASS-325-65			US-PATENT-APPL-SN-645507
					US-PATENT-4,041,391			US-PATENT-CLASS-148-32.5

		US-PATENT-CLASS-75-170			US-PATENT-CLASS-340-347AD			US-PATENT-CLASS-3-1.2
		US-PATENT-4,046,560			US-PATENT-CLASS-350-96R			US-PATENT-CLASS-3-15
N77-32308*	c 27	NASA-CASE-GSC-12110-1	N77-32919*	c 76	NASA-CASE-MFS-23001-1	N78-10709*	c 60	US-PATENT-CLASS-3-29
		US-PATENT-APPL-SN-682435			US-PATENT-APPL-SN-610801			US-PATENT-4,051,558
		US-PATENT-CLASS-156-645			US-PATENT-CLASS-156-DIG.62			NASA-CASE-GSC-11839-2
		US-PATENT-CLASS-156-663			US-PATENT-CLASS-156-601			US-PATENT-APPL-SN-468614
		US-PATENT-4,046,619			US-PATENT-CLASS-156-619			US-PATENT-APPL-SN-657996
N77-32342*	c 32	NASA-CASE-NPO-13587-1			US-PATENT-CLASS-156-620			US-PATENT-CLASS-340-173LM
		US-PATENT-APPL-SN-589119			US-PATENT-CLASS-156-617			US-PATENT-CLASS-350-96R
		US-PATENT-CLASS-343-10	N78-10214*	c 24	NASA-CASE-LAR-11898-1			US-PATENT-CLASS-356-169
		US-PATENT-CLASS-343-100CL			US-PATENT-APPL-SN-723264	N78-10837*	c 71	US-PATENT-4,052,705
		US-PATENT-CLASS-343-5CM			US-PATENT-CLASS-428-116			NASA-CASE-NPO-13802-1
		US-PATENT-CLASS-343-5DP			US-PATENT-CLASS-428-116			US-PATENT-APPL-SN-658133
		US-PATENT-4,045,795			US-PATENT-CLASS-428-138			US-PATENT-CLASS-264-23
N77-32413*	c 34	NASA-CASE-GSC-11998-1			US-PATENT-CLASS-428-73			US-PATENT-CLASS-264-345
		US-PATENT-APPL-SN-579989			US-PATENT-CLASS-428-902			US-PATENT-CLASS-65-DIG.4
		US-PATENT-CLASS-165-105			US-PATENT-4,052,523			US-PATENT-CLASS-65-DIG.7
		US-PATENT-4,046,190	N78-10224*	c 25	NASA-CASE-LEW-12137-1			US-PATENT-CLASS-65-102
N77-32454*	c 35	NASA-CASE-LEW-12050-1			US-PATENT-APPL-SN-672210			US-PATENT-CLASS-65-2
		US-PATENT-APPL-SN-629457			US-PATENT-CLASS-165-105			US-PATENT-CLASS-65-32
		US-PATENT-CLASS-136-202			US-PATENT-CLASS-431-158			US-PATENT-CLASS-65-48
		US-PATENT-CLASS-136-236R			US-PATENT-CLASS-431-352			US-PATENT-CLASS-65-87
		US-PATENT-CLASS-136-240			US-PATENT-CLASS-60-39.51R			US-PATENT-CLASS-73-505
		US-PATENT-4,045,247			US-PATENT-4,052,144			US-PATENT-4,052,181
N77-32455*	c 35	NASA-CASE-NPO-13792-1	N78-10225*	c 25	NASA-CASE-MSC-14831-1	N78-12390*	c 35	NASA-CASE-MSC-14773-1
		US-PATENT-APPL-SN-677351			US-PATENT-APPL-SN-685027			US-PATENT-APPL-SN-612966
		US-PATENT-CLASS-324-57H			US-PATENT-CLASS-204-292			US-PATENT-CLASS-127-107
		US-PATENT-CLASS-324-59			US-PATENT-CLASS-210-63R			US-PATENT-CLASS-210-222
		US-PATENT-4,045,728			US-PATENT-CLASS-210-71			US-PATENT-CLASS-55-100
N77-32456*	c 35	NASA-CASE-GSC-12143-1			US-PATENT-CLASS-252-472			US-PATENT-CLASS-55-26-9
		US-PATENT-APPL-SN-743249			US-PATENT-CLASS-427-229			US-PATENT-CLASS-55-3
		US-PATENT-CLASS-250-288			US-PATENT-4,052,302			US-PATENT-CLASS-62-50
		US-PATENT-CLASS-73-421.5R	N78-10375*	c 33	NASA-CASE-MSC-14916-1			US-PATENT-CLASS-62-514R
		US-PATENT-4,046,012			US-PATENT-APPL-SN-739914			US-PATENT-4,027,494
N77-32478*	c 36	NASA-CASE-LEW-12164-1			US-PATENT-CLASS-179-107R	N78-13320*	c 33	NASA-CASE-MFS-23274-1
		US-PATENT-APPL-SN-511334			US-PATENT-CLASS-179-175.1A			US-PATENT-APPL-SN-714158
		US-PATENT-CLASS-350-162SF			US-PATENT-CLASS-330-2			US-PATENT-CLASS-307-306
		US-PATENT-4,043,674			US-PATENT-4,049,930			US-PATENT-CLASS-338-32S
N77-32499*	c 37	NASA-CASE-MSC-19535-1	N78-10376*	c 33	NASA-CASE-MFS-23280-1			US-PATENT-CLASS-357-4
		US-PATENT-APPL-SN-641784			US-PATENT-APPL-SN-706425			US-PATENT-CLASS-357-5
		US-PATENT-CLASS-292-110			US-PATENT-CLASS-318-200			US-PATENT-CLASS-357-73
		US-PATENT-4,045,063			US-PATENT-CLASS-318-227			US-PATENT-4,055,847
N77-32500*	c 37	NASA-CASE-LEW-12527-1			US-PATENT-CLASS-318-230	N78-13400*	c 35	NASA-CASE-ARC-10639-1
		US-PATENT-APPL-SN-595747			US-PATENT-4,052,648			US-PATENT-APPL-SN-643043
		US-PATENT-CLASS-290-52	N78-10377*	c 33	NASA-CASE-NPO-13872-1			US-PATENT-CLASS-250-336
		US-PATENT-CLASS-308-195			US-PATENT-APPL-SN-742034			US-PATENT-CLASS-250-343
		US-PATENT-CLASS-308-72			US-PATENT-CLASS-363-57			US-PATENT-CLASS-250-351
		US-PATENT-4,046,434			US-PATENT-CLASS-363-89			US-PATENT-4,055,764
N77-32501*	c 37	NASA-CASE-LEW-12477-1			US-PATENT-4,052,659	N78-13436*	c 37	NASA-CASE-LEW-12083-1
		US-PATENT-APPL-SN-595745	N78-10428*	c 35	NASA-CASE-MSC-14757-1			US-PATENT-APPL-SN-659882
		US-PATENT-CLASS-290-52			US-PATENT-APPL-SN-625734			US-PATENT-CLASS-250-499
		US-PATENT-CLASS-308-195			US-PATENT-CLASS-141-197			US-PATENT-CLASS-313-61S
		US-PATENT-4,046,435			US-PATENT-CLASS-141-4			US-PATENT-CLASS-427-124
N77-32580*	c 44	NASA-CASE-NPO-13675-1			US-PATENT-CLASS-417-225			US-PATENT-CLASS-427-126
		US-PATENT-APPL-SN-658132			US-PATENT-CLASS-60-560			US-PATENT-CLASS-427-248E
		US-PATENT-CLASS-204-157.1R			US-PATENT-CLASS-60-574			US-PATENT-CLASS-427-250
		US-PATENT-CLASS-250-527			US-PATENT-4,051,877			US-PATENT-CLASS-427-255
		US-PATENT-4,045,315	N78-10429*	c 35	NASA-CASE-NPO-13772-1			US-PATENT-4,055,686
N77-32581*	c 44	NASA-CASE-NPO-13510-1			US-PATENT-APPL-SN-675351	N78-13526*	c 44	NASA-CASE-NPO-13482-1
		US-PATENT-APPL-SN-536786			US-PATENT-CLASS-250-310			US-PATENT-APPL-SN-495021
		US-PATENT-CLASS-126-263			US-PATENT-CLASS-250-398			US-PATENT-CLASS-136-89SJ
		US-PATENT-CLASS-165-107			US-PATENT-4,052,614			US-PATENT-CLASS-357-15
		US-PATENT-CLASS-165-2	N78-10467*	c 37	NASA-CASE-LEW-12321-1			US-PATENT-CLASS-357-16
		US-PATENT-CLASS-62-4			US-PATENT-APPL-SN-596641			US-PATENT-CLASS-357-30
		US-PATENT-4,044,821			US-PATENT-CLASS-123-122E			US-PATENT-4,053,918
N77-32582*	c 44	NASA-CASE-NPO-13810-1			US-PATENT-CLASS-123-41.33	N78-13874*	c 74	NASA-CASE-GSC-12088-1
		US-PATENT-APPL-SN-681096			US-PATENT-CLASS-137-104			US-PATENT-APPL-SN-648700
		US-PATENT-CLASS-126-270			US-PATENT-CLASS-415-180			US-PATENT-CLASS-356-103
		US-PATENT-CLASS-126-271			US-PATENT-CLASS-60-39.28R			US-PATENT-CLASS-356-104
		US-PATENT-CLASS-52-117			US-PATENT-CLASS-60-39.66			US-PATENT-4,053,229
		US-PATENT-CLASS-60-641			US-PATENT-4,041,697	N78-14096*	c 24	NASA-CASE-ARC-11042-1
		US-PATENT-4,044,753	N78-10468*	c 37	NASA-CASE-LEW-12313-1			US-PATENT-APPL-SN-734902
N77-32583*	c 44	NASA-CASE-NPO-13736-1			US-PATENT-APPL-SN-581751			US-PATENT-CLASS-252-8.1
		US-PATENT-APPL-SN-681017			US-PATENT-CLASS-416-135			US-PATENT-CLASS-60-836
		US-PATENT-CLASS-350-295			US-PATENT-CLASS-416-141			US-PATENT-4,061,579
		US-PATENT-CLASS-350-320			US-PATENT-CLASS-416-220R	N78-14104*	c 25	NASA-CASE-ARC-10991-1
		US-PATENT-CLASS-427-130			US-PATENT-CLASS-416-248			US-PATENT-APPL-SN-744574
		US-PATENT-CLASS-427-47			US-PATENT-4,047,840			US-PATENT-CLASS-204-180G
		US-PATENT-CLASS-52-2	N78-10493*	c 39	NASA-CASE-NPO-13731-1			US-PATENT-CLASS-204-299R
		US-PATENT-4,046,462			US-PATENT-APPL-SN-653682			US-PATENT-4,061,561
N77-32721*	c 54	NASA-CASE-ARC-10756-1			US-PATENT-CLASS-73-15.6	N78-14164*	c 27	NASA-CASE-NPO-13867-1
		US-PATENT-APPL-SN-436313			US-PATENT-CLASS-73-91			US-PATENT-APPL-SN-692284
		US-PATENT-CLASS-2-2.1A			US-PATENT-4,030,348			US-PATENT-CLASS-260-DIG.15
		US-PATENT-CLASS-214-1BC	N78-10529*	c 43	NASA-CASE-GSC-11976-1			US-PATENT-CLASS-427-164
		US-PATENT-CLASS-214-1CM			US-PATENT-APPL-SN-677352			US-PATENT-CLASS-428-411
		US-PATENT-4,046,262			US-PATENT-CLASS-324-58.5B			US-PATENT-CLASS-428-522
N77-32722*	c 54	NASA-CASE-MSC-14771-1			US-PATENT-4,052,666			US-PATENT-CLASS-428-922
		US-PATENT-APPL-SN-688854	N78-10554*	c 44	NASA-CASE-NPO-13734-1			US-PATENT-CLASS-96-87A
		US-PATENT-CLASS-165-166			US-PATENT-APPL-SN-680939			US-PATENT-4,061,834
		US-PATENT-CLASS-55-179			US-PATENT-CLASS-126-271	N78-14364*	c 35	NASA-CASE-ARC-11046-1
		US-PATENT-CLASS-55-269			US-PATENT-CLASS-237-1A			US-PATENT-APPL-SN-712419
		US-PATENT-4,046,529			US-PATENT-CLASS-350-293			US-PATENT-CLASS-340-275S
N77-32731*	c 60	NASA-CASE-GSC-11839-3			US-PATENT-CLASS-350-299			US-PATENT-CLASS-73-180
		US-PATENT-APPL-SN-468614			US-PATENT-4,051,834			US-PATENT-4,061,029
		US-PATENT-APPL-SN-657997	N78-10686*	c 52	NASA-CASE-ARC-10916-1	N78-14380*	c 36	NASA-CASE-MFS-19259-1
		US-PATENT-CLASS-250-199			US-PATENT-APPL-SN-701448			US-PATENT-APPL-SN-732630

				US-PATENT-CLASS-250-571				US-PATENT-CLASS-428-428				US-PATENT-APPL-SN-759220
				US-PATENT-CLASS-356-159				US-PATENT-4,062,996				US-PATENT-CLASS-260-67
				US-PATENT-CLASS-356-160				NASA-CASE-MFS-22409-2				US-PATENT-3,538,053
				US-PATENT-CLASS-356-199		N78-15880*	c 74	US-PATENT-APPL-SN-445398		N78-17215*	c 27	NASA-CASE-NPO-13764-1
				US-PATENT-4,061,427				US-PATENT-APPL-SN-636193				US-PATENT-APPL-SN-674194
N78-14452*	c 43			NASA-CASE-LEW-12217-1				US-PATENT-CLASS-250-272				US-PATENT-CLASS-128-92C
				US-PATENT-APPL-SN-763753				US-PATENT-CLASS-250-320				US-PATENT-CLASS-128-92G
				US-PATENT-CLASS-166-248				US-PATENT-4,063,088				US-PATENT-CLASS-260-42.17
				US-PATENT-CLASS-166-259		N78-16369*	c 37	NASA-CASE-NPO-13619-1				US-PATENT-CLASS-3-1.9
				US-PATENT-4,061,190				US-PATENT-APPL-SN-572990				US-PATENT-4,064,566
N78-14625*	c 44			NASA-CASE-LEW-12039-1				US-PATENT-CLASS-185-38		N78-17237*	c 31	NASA-CASE-LEW-11981-1
				US-PATENT-APPL-SN-687822				US-PATENT-CLASS-74-81				US-PATENT-APPL-SN-672220
				US-PATENT-CLASS-320-15				US-PATENT-CLASS-74-83				US-PATENT-CLASS-313-22
				US-PATENT-CLASS-320-18				US-PATENT-4,062,245				US-PATENT-CLASS-62-376
				US-PATENT-CLASS-320-40		N78-16387*	c 39	NASA-CASE-LAR-11490-1				US-PATENT-CLASS-62-514R
				US-PATENT-CLASS-320-6				US-PATENT-APPL-SN-707125				US-PATENT-4,068,495
				US-PATENT-4,061,955				US-PATENT-CLASS-358-106		N78-17238*	c 31	NASA-CASE-NPO-11978
N78-14773*	c 52			NASA-CASE-LEW-12668-1				US-PATENT-4,063,282				US-PATENT-APPL-SN-264268
				US-PATENT-APPL-SN-677353		N78-17031*	c 04	NASA-CASE-XNP-01458				US-PATENT-CLASS-313-175
				US-PATENT-CLASS-128-305				US-PATENT-APPL-SN-160093				US-PATENT-CLASS-313-176
				US-PATENT-4,061,146				US-PATENT-CLASS-235-70				US-PATENT-CLASS-313-180
N78-14784*	c 54			NASA-CASE-MSC-14632-1				US-PATENT-3,229,905				US-PATENT-CLASS-313-184
				US-PATENT-APPL-SN-571459		N78-17055*	c 07	NASA-CASE-LEW-12317-1				US-PATENT-CLASS-313-224
				US-PATENT-CLASS-204-180P				US-PATENT-APPL-SN-581750				US-PATENT-3,769,544
				US-PATENT-CLASS-204-301				US-PATENT-CLASS-60-204		N78-17293*	c 33	NASA-CASE-XLE-06094
				US-PATENT-CLASS-210-192				US-PATENT-CLASS-60-226R				US-PATENT-APPL-SN-523632
				US-PATENT-CLASS-210-96M				US-PATENT-CLASS-60-271				US-PATENT-CLASS-315-22
				US-PATENT-CLASS-23-253A				US-PATENT-4,068,469				US-PATENT-3,423,627
				US-PATENT-4,061,570		N78-17056*	c 07	NASA-CASE-LEW-12390-1		N78-17294*	c 33	NASA-CASE-MSC-11235
N78-14867*	c 71			NASA-CASE-LAR-12106-1				US-PATENT-APPL-SN-522109				US-PATENT-APPL-SN-698239
				US-PATENT-APPL-SN-740156				US-PATENT-CLASS-60-226R				US-PATENT-CLASS-307-270
				US-PATENT-CLASS-330-52				US-PATENT-CLASS-74-385				US-PATENT-CLASS-307-297
				US-PATENT-CLASS-73-646				US-PATENT-CLASS-74-417				US-PATENT-CLASS-323-4
				US-PATENT-4,061,041				US-PATENT-4,068,470				US-PATENT-CLASS-328-172
N78-14889*	c 74			NASA-CASE-KSC-11047-1		N78-17140*	c 17	NASA-CASE-HQN-10880-1				US-PATENT-3,573,504
				US-PATENT-APPL-SN-715485				US-PATENT-APPL-SN-595254		N78-17295*	c 33	NASA-CASE-XGS-09186
				US-PATENT-CLASS-179-91R				US-PATENT-CLASS-325-118				US-PATENT-APPL-SN-669911
				US-PATENT-CLASS-250-199				US-PATENT-CLASS-325-66				US-PATENT-CLASS-323-18
				US-PATENT-CLASS-358-142				US-PATENT-CLASS-343-112R				US-PATENT-3,475,675
				US-PATENT-4,061,577				US-PATENT-CLASS-343-225		N78-17296*	c 33	NASA-CASE-GSC-10135
N78-15180*	c 24			NASA-CASE-ARC-10913-1				US-PATENT-CLASS-362-269				US-PATENT-APPL-SN-764823
				US-PATENT-APPL-SN-698646				US-PATENT-4,067,015				US-PATENT-CLASS-307-53
				US-PATENT-CLASS-106-15FP		N78-17149*	c 24	NASA-CASE-LAR-11898-2				US-PATENT-CLASS-307-69
				US-PATENT-CLASS-260-2.5N				US-PATENT-APPL-SN-723264				US-PATENT-CLASS-320-53
				US-PATENT-CLASS-260-2.5R				US-PATENT-APPL-SN-799024				US-PATENT-CLASS-323-19
				US-PATENT-CLASS-428-117				US-PATENT-CLASS-156-245				US-PATENT-3,800,599
				US-PATENT-CLASS-428-290				US-PATENT-CLASS-156-285		N78-17335*	c 34	NASA-CASE-LEW-12508-1
				US-PATENT-CLASS-428-71				US-PATENT-CLASS-156-289				US-PATENT-APPL-SN-746580
				US-PATENT-CLASS-428-73				US-PATENT-CLASS-428-116				US-PATENT-CLASS-62-3
				US-PATENT-CLASS-428-920				US-PATENT-CLASS-428-902				US-PATENT-4,069,028
				US-PATENT-4,061,812				US-PATENT-4,063,981		N78-17336*	c 34	NASA-CASE-ARC-10198
N78-15210*	c 25			NASA-CASE-LAR-12046-1		N78-17150*	c 24	NASA-CASE-LAR-12019-1				US-PATENT-APPL-SN-42088
				US-PATENT-APPL-SN-755310				US-PATENT-APPL-SN-792067				US-PATENT-CLASS-165-105
				US-PATENT-CLASS-23-230PC				US-PATENT-CLASS-156-154				US-PATENT-CLASS-165-134
				US-PATENT-CLASS-23-232E				US-PATENT-CLASS-156-264				US-PATENT-3,777,811
				US-PATENT-CLASS-23-232R				US-PATENT-CLASS-156-285		N78-17337*	c 34	NASA-CASE-ARC-10199
				US-PATENT-CLASS-73-23				US-PATENT-CLASS-156-286				US-PATENT-APPL-SN-824628
				US-PATENT-4,062,650				US-PATENT-CLASS-156-289				US-PATENT-CLASS-165-105
N78-15276*	c 27			NASA-CASE-LEW-12053-1				US-PATENT-CLASS-156-300				US-PATENT-CLASS-165-32
				US-PATENT-APPL-SN-513613				US-PATENT-CLASS-156-306				US-PATENT-CLASS-165-96
				US-PATENT-CLASS-260-2R				US-PATENT-CLASS-156-311				US-PATENT-CLASS-2-2.1
				US-PATENT-CLASS-526-193				US-PATENT-CLASS-264-157				US-PATENT-3,543,839
				US-PATENT-CLASS-526-225				US-PATENT-CLASS-264-90		N78-17357*	c 35	NASA-CASE-MFS-23194-1
				US-PATENT-CLASS-544-193				US-PATENT-CLASS-428-294				US-PATENT-APPL-SN-629458
				US-PATENT-4,061,856				US-PATENT-CLASS-428-302				US-PATENT-CLASS-350-3.5
N78-15323*	c 32			NASA-CASE-NPO-13836-1				US-PATENT-4,065,340				US-PATENT-4,065,202
				US-PATENT-APPL-SN-699002		N78-17205*	c 27	NASA-CASE-LAR-12181-1		N78-17358*	c 35	NASA-CASE-MSC-11242
				US-PATENT-CLASS-178-69.1				US-PATENT-APPL-SN-532784				US-PATENT-APPL-SN-636796
				US-PATENT-CLASS-325-58				US-PATENT-APPL-SN-734901				US-PATENT-CLASS-73-67.2
				US-PATENT-CLASS-325-63				US-PATENT-CLASS-156-309				US-PATENT-3,492,858
				US-PATENT-CLASS-343-179				US-PATENT-CLASS-156-331		N78-17359*	c 35	NASA-CASE-NPO-11150
				US-PATENT-4,061,974				US-PATENT-CLASS-260-30.4N				US-PATENT-APPL-SN-858950
N78-15461*	c 35			NASA-CASE-NPO-13808-1				US-PATENT-CLASS-260-32.2R				US-PATENT-CLASS-338-100
				US-PATENT-APPL-SN-675328				US-PATENT-CLASS-260-32.6NT				US-PATENT-CLASS-338-36
				US-PATENT-CLASS-250-322				US-PATENT-CLASS-260-33.4R				US-PATENT-CLASS-338-99
				US-PATENT-CLASS-250-416TV				US-PATENT-4,065,345				US-PATENT-3,641,470
				US-PATENT-4,063,092		N78-17206*	c 27	NASA-CASE-LAR-11902-1		N78-17366*	c 36	NASA-CASE-MFS-22597
N78-15512*	c 39			NASA-CASE-LAR-12016-1				US-PATENT-APPL-SN-672695				US-PATENT-APPL-SN-395895
				US-PATENT-APPL-SN-754066				US-PATENT-CLASS-106-43				US-PATENT-CLASS-315-108
				US-PATENT-CLASS-73-579				US-PATENT-CLASS-60-200A				US-PATENT-CLASS-331-94.5G
				US-PATENT-CLASS-73-630				US-PATENT-CLASS-75-229				US-PATENT-CLASS-331-94.5T
				US-PATENT-CLASS-73-88F				US-PATENT-CLASS-75-239				US-PATENT-3,882,417
				US-PATENT-4,062,227				US-PATENT-CLASS-75-241		N78-17383*	c 37	NASA-CASE-MSC-19666-1
N78-15560*	c 44			NASA-CASE-LAR-12009-1				US-PATENT-4,067,742				US-PATENT-APPL-SN-721150
				US-PATENT-APPL-SN-717320				NASA-CASE-MSC-14331-2				US-PATENT-CLASS-118-50
				US-PATENT-CLASS-126-270		N78-17213*	c 27	US-PATENT-APPL-SN-657907				US-PATENT-CLASS-118-500
				US-PATENT-CLASS-126-400				US-PATENT-CLASS-260-75NH				US-PATENT-CLASS-248-36.3
				US-PATENT-CLASS-237-1A				US-PATENT-CLASS-260-75NK				US-PATENT-CLASS-269-21
				US-PATENT-4,062,347				US-PATENT-CLASS-260-75NI				US-PATENT-CLASS-279-3
N78-15879*	c 74			NASA-CASE-LAR-10385-3				US-PATENT-CLASS-260-77.5AM				US-PATENT-CLASS-51-235
				US-PATENT-APPL-SN-370999				US-PATENT-CLASS-260-77.5AN				US-PATENT-4,066,039
				US-PATENT-APPL-SN-38816				US-PATENT-CLASS-260-77.5AP		N78-17384*	c 37	NASA-CASE-LEW-12916-1
				US-PATENT-CLASS-350-1				US-PATENT-CLASS-260-77.5AT				US-PATENT-APPL-SN-583056
				US-PATENT-CLASS-428-334				US-PATENT-CLASS-260-77.5SP				US-PATENT-CLASS-60-261
				US-PATENT-CLASS-428-336				US-PATENT-4,069,212				US-PATENT-CLASS-60-262
				US-PATENT-CLASS-428-426		N78-17214*	c 27	NASA-CASE-NPO-10557				US-PATENT-CLASS-60-271

N78-17385*	c 37	US-PATENT-4,064,692 NASA-CASE-WOO-00625 US-PATENT-APPL-SN-362278 US-PATENT-CLASS-74-800 US-PATENT-CLASS-3,306,134	N78-18083*	c 09	US-PATENT-CLASS-60-262 US-PATENT-4,069,661 NASA-CASE-ARC-10903-1 US-PATENT-APPL-SN-623536 US-PATENT-CLASS-35-12N US-PATENT-CLASS-358-104 US-PATENT-4,055,004	N78-24275*	c 20	NASA-CASE-LAR-12018-1 US-PATENT-APPL-SN-678520 US-PATENT-CLASS-102-39 US-PATENT-CLASS-102-49.7 US-PATENT-CLASS-102-70R US-PATENT-CLASS-285-192 US-PATENT-CLASS-60-39.82E US-PATENT-4,080,901
N78-17386*	c 37	NASA-CASE-NPO-10151 US-PATENT-APPL-SN-365244 US-PATENT-CLASS-328-233 US-PATENT-CLASS-3,387,218	N78-18182*	c 26	NASA-CASE-LEW-12095-1 US-PATENT-APPL-SN-651009 US-PATENT-CLASS-75-124 US-PATENT-CLASS-75-126D US-PATENT-CLASS-75-126F US-PATENT-CLASS-75-128G US-PATENT-CLASS-75-128T US-PATENT-4,055,416	N78-24290*	c 24	NASA-CASE-MFS-23506-1 US-PATENT-APPL-SN-760809 US-PATENT-CLASS-260-2.5AK US-PATENT-CLASS-260-2.5AP US-PATENT-CLASS-260-2.5B US-PATENT-CLASS-260-2.5BE US-PATENT-CLASS-260-2.5EP US-PATENT-CLASS-260-2.5FP US-PATENT-CLASS-260-29.1R US-PATENT-CLASS-260-37EP US-PATENT-CLASS-427-427 US-PATENT-4,077,921
N78-17395*	c 38	NASA-CASE-NPO-13283 US-PATENT-APPL-SN-401225 US-PATENT-CLASS-235-151.3 US-PATENT-CLASS-235-156 US-PATENT-CLASS-235-181 US-PATENT-CLASS-250-572 US-PATENT-CLASS-356-237 US-PATENT-3,908,118	N78-18183*	c 26	NASA-CASE-LEW-12905-1 US-PATENT-APPL-SN-684171 US-PATENT-CLASS-148-32 US-PATENT-CLASS-148-32.5 US-PATENT-CLASS-75-170 US-PATENT-4,055,447	N78-24333*	c 26	NASA-CASE-MSC-19693-1 US-PATENT-APPL-SN-708771 US-PATENT-CLASS-148-12.7A US-PATENT-CLASS-148-125 US-PATENT-4,077,813
N78-17396*	c 38	NASA-CASE-NPO-13282 US-PATENT-APPL-SN-401224 US-PATENT-CLASS-235-151.3 US-PATENT-CLASS-235-156 US-PATENT-CLASS-250-563 US-PATENT-CLASS-250-572 US-PATENT-CLASS-356-165 US-PATENT-CLASS-356-237 US-PATENT-3,909,602	N78-18308*	c 33	NASA-CASE-FRC-10090-1 US-PATENT-APPL-SN-737974 US-PATENT-CLASS-307-265 US-PATENT-CLASS-307-350 US-PATENT-CLASS-307-360 US-PATENT-CLASS-328-150 US-PATENT-4,055,777	N78-24365*	c 28	NASA-CASE-LEW-12081-1 US-PATENT-APPL-SN-676432 US-PATENT-CLASS-250-492R US-PATENT-CLASS-34-15 US-PATENT-CLASS-423-648R US-PATENT-CLASS-62-100 US-PATENT-CLASS-62-48 US-PATENT-4,077,788
N78-17460*	c 44	NASA-CASE-NPO-13579-1 US-PATENT-APPL-SN-598969 US-PATENT-CLASS-126-263 US-PATENT-CLASS-126-271 US-PATENT-CLASS-165-2 US-PATENT-CLASS-237-1A US-PATENT-CLASS-60-641 US-PATENT-CLASS-62-4 US-PATENT-4,065,053	N78-18355*	c 34	NASA-CASE-LEW-12554-1 US-PATENT-APPL-SN-686449 US-PATENT-CLASS-427-34 US-PATENT-CLASS-427-405 US-PATENT-CLASS-427-419A US-PATENT-CLASS-427-423 US-PATENT-CLASS-428-633 US-PATENT-CLASS-428-652 US-PATENT-CLASS-428-667 US-PATENT-4,055,705	N78-24391*	c 32	NASA-CASE-NPO-13886-1 US-PATENT-APPL-SN-730045 US-PATENT-CLASS-307-151 US-PATENT-CLASS-343-700MS US-PATENT-CLASS-361-395 US-PATENT-4,079,268
N78-17675*	c 54	NASA-CASE-ARC-11101-1 US-PATENT-APPL-SN-753976 US-PATENT-CLASS-2-2.1A US-PATENT-CLASS-36-119 US-PATENT-CLASS-36-92 US-PATENT-4,064,642	N78-18390*	c 35	NASA-CASE-MFS-23008-1 US-PATENT-APPL-SN-665734 US-PATENT-CLASS-73-DIG.11 US-PATENT-CLASS-73-28 US-PATENT-CLASS-73-432PS US-PATENT-CLASS-73-432R US-PATENT-4,055,089	N78-24515*	c 35	NASA-CASE-LAR-11201-1 US-PATENT-APPL-SN-788705 US-PATENT-CLASS-416-144 US-PATENT-CLASS-416-61 US-PATENT-CLASS-73-456 US-PATENT-CLASS-73-756 US-PATENT-4,082,001
N78-17676*	c 54	NASA-CASE-MFS-23311-1 US-PATENT-APPL-SN-708800 US-PATENT-CLASS-214-1CM US-PATENT-CLASS-3-12.5 US-PATENT-CLASS-74-515E US-PATENT-4,068,763	N78-18391*	c 35	NASA-CASE-NPO-13687-1 US-PATENT-APPL-SN-641803 US-PATENT-CLASS-356-106S US-PATENT-CLASS-356-110 US-PATENT-4,053,231	N78-24544*	c 37	NASA-CASE-MSC-16000-1 US-PATENT-APPL-SN-739915 US-PATENT-CLASS-29-156.8R US-PATENT-CLASS-29-23.5 US-PATENT-CLASS-29-244 US-PATENT-CLASS-29-252 US-PATENT-4,078,290
N78-17677*	c 54	NASA-CASE-MSC-13054 US-PATENT-APPL-SN-585217 US-PATENT-CLASS-2-161 US-PATENT-4,090,074	N78-18395* #	c 35	NASA-CASE-NPO-13999-1 US-PATENT-APPL-SN-858596	N78-24545*	c 37	NASA-CASE-LEW-12785-1 US-PATENT-APPL-SN-739909 US-PATENT-CLASS-60-39.28R US-PATENT-4,078,378
N78-17678*	c 54	NASA-CASE-XMS-04670 US-PATENT-APPL-SN-535169 US-PATENT-CLASS-2-2.1 US-PATENT-3,488,771	N78-18410*	c 36	NASA-CASE-NPO-13801-1 US-PATENT-APPL-SN-708796 US-PATENT-CLASS-330-4 US-PATENT-CLASS-332-7.5 US-PATENT-4,055,810	N78-24608*	c 44	NASA-CASE-GSC-12030-1 US-PATENT-APPL-SN-710035 US-PATENT-CLASS-308-10 US-PATENT-CLASS-310-153 US-PATENT-CLASS-310-154 US-PATENT-CLASS-310-178 US-PATENT-CLASS-310-269 US-PATENT-4,077,678
N78-17679*	c 54	NASA-CASE-XMS-04928 US-PATENT-APPL-SN-584914 US-PATENT-CLASS-98-1 US-PATENT-3,487,765	N78-18761*	c 54	NASA-CASE-MSC-10954-1 US-PATENT-APPL-SN-529884 US-PATENT-CLASS-2-2.1 US-PATENT-3,514,785	N78-24609*	c 44	NASA-CASE-GSC-12022-2 US-PATENT-APPL-SN-693074 US-PATENT-CLASS-136-89SG US-PATENT-CLASS-148-174 US-PATENT-CLASS-29-572 US-PATENT-CLASS-357-30 US-PATENT-CLASS-357-59 US-PATENT-CLASS-427-113 US-PATENT-CLASS-427-248J US-PATENT-CLASS-427-249 US-PATENT-CLASS-427-86 US-PATENT-4,077,818
N78-17680*	c 54	NASA-CASE-XMS-09653 US-PATENT-APPL-SN-538863 US-PATENT-CLASS-2-6 US-PATENT-3,359,568	N78-18905*	c 74	NASA-CASE-GSC-12010-1 US-PATENT-APPL-SN-680958 US-PATENT-CLASS-250-213VT US-PATENT-CLASS-313-442 US-PATENT-CLASS-313-94 US-PATENT-4,070,574	N78-24950*	c 76	NASA-CASE-MFS-23315-1 US-PATENT-APPL-SN-724874 US-PATENT-CLASS-250-277CH US-PATENT-CLASS-250-280 US-PATENT-4,078,175
N78-17691*	c 60	NASA-CASE-GSC-12044-1 US-PATENT-APPL-SN-631341 US-PATENT-CLASS-340-347DD US-PATENT-4,069,478	N78-19302*	c 27	NASA-CASE-NPO-13690-1 US-PATENT-APPL-SN-633876 US-PATENT-CLASS-106-39.5 US-PATENT-CLASS-106-65 US-PATENT-CLASS-106-73.5 US-PATENT-4,072,532	N78-25089*	c 07	NASA-CASE-LEW-12452-1 US-PATENT-APPL-SN-695513 US-PATENT-CLASS-60-226R US-PATENT-CLASS-60-39.52 US-PATENT-4,083,181
N78-17865*	c 74	NASA-CASE-MSC-12618-1 US-PATENT-APPL-SN-651007 US-PATENT-CLASS-350-159 US-PATENT-CLASS-358-225 US-PATENT-CLASS-358-41 US-PATENT-CLASS-358-55 US-PATENT-4,067,043	N78-19465*	c 35	NASA-CASE-ARC-10896-1 US-PATENT-APPL-SN-615030 US-PATENT-CLASS-73-23 US-PATENT-4,055,072	N78-25090*	c 07	NASA-CASE-LEW-11855-1 US-PATENT-APPL-SN-672222 US-PATENT-CLASS-277-134 US-PATENT-CLASS-277-25 US-PATENT-4,084,825
N78-17866*	c 74	NASA-CASE-LAR-11711-1 US-PATENT-APPL-SN-674195 US-PATENT-CLASS-250-201 US-PATENT-CLASS-350-204 US-PATENT-CLASS-356-28 US-PATENT-4,063,814	N78-19466*	c 35	NASA-CASE-ARC-10820-1 US-PATENT-APPL-SN-620675 US-PATENT-CLASS-119-51.11 US-PATENT-CLASS-119-72.5 US-PATENT-CLASS-137-624.11 US-PATENT-4,055,147	N78-25119*	c 15	NASA-CASE-MFS-23564-1 US-PATENT-APPL-SN-739908 US-PATENT-CLASS-244-161 US-PATENT-CLASS-244-167
N78-17867*	c 74	NASA-CASE-NPO-13759-1 US-PATENT-APPL-SN-718266 US-PATENT-CLASS-250-344 US-PATENT-CLASS-356-204 US-PATENT-CLASS-356-246 US-PATENT-4,067,653	N78-19599*	c 44	NASA-CASE-LEW-12159-1 US-PATENT-APPL-SN-643041 US-PATENT-CLASS-126-270 US-PATENT-CLASS-427-160 US-PATENT-CLASS-428-652 US-PATENT-CLASS-428-667 US-PATENT-CLASS-428-679 US-PATENT-4,055,707			
N78-18066*	c 07	NASA-CASE-LEW-12389-2 US-PATENT-APPL-SN-628221 US-PATENT-CLASS-244-53A US-PATENT-CLASS-244-54 US-PATENT-CLASS-60-226R US-PATENT-CLASS-60-39.31 US-PATENT-4,055,041	N78-19920*	c 73	NASA-CASE-HQN-10841-1 US-PATENT-APPL-SN-560891 US-PATENT-CLASS-176-39 US-PATENT-CLASS-330-4.3 US-PATENT-4,075,057			
N78-18067*	c 07	NASA-CASE-LEW-12917-1 US-PATENT-APPL-SN-583055 US-PATENT-CLASS-60-204						



N78-25148*	c 25	US-PATENT-4,083,520 NASA-CASE-LEW-12465-1 US-PATENT-APPL-SN-692413 US-PATENT-CLASS-250-423P US-PATENT-CLASS-250-528 US-PATENT-CLASS-250-531 US-PATENT-CLASS-55-100 US-PATENT-CLASS-55-101 US-PATENT-CLASS-55-2 US-PATENT-4,085,332	N78-27176* #	c 20	NASA-CASE-MFS-23642-2 US-PATENT-APPL-SN-923758	N78-28594*	c 44	US-PATENT-4,088,951 NASA-CASE-NPO-13821-1 US-PATENT-APPL-SN-688852 US-PATENT-CLASS-343-113R US-PATENT-CLASS-343-119 US-PATENT-CLASS-343-16M US-PATENT-4,088,999
N78-25256*	c 31	NASA-CASE-NPO-13839-1 US-PATENT-APPL-SN-712981 US-PATENT-CLASS-250-332 US-PATENT-CLASS-313-22 US-PATENT-CLASS-62-514R US-PATENT-4,077,231	N78-27180*	c 24	NASA-CASE-ARC-11043-1 US-PATENT-APPL-SN-753964 US-PATENT-CLASS-260-33.6EP US-PATENT-CLASS-260-33.6PQ US-PATENT-CLASS-260-33.8EP US-PATENT-CLASS-260-33.8UA US-PATENT-CLASS-260-37EP US-PATENT-CLASS-260-42.43 US-PATENT-CLASS-260-45.7R US-PATENT-CLASS-260-45.75W US-PATENT-CLASS-260-45.85N US-PATENT-CLASS-260-45.9R US-PATENT-CLASS-427-386 US-PATENT-CLASS-427-388A US-PATENT-CLASS-428-313 US-PATENT-CLASS-428-332 US-PATENT-CLASS-428-921 US-PATENT-4,088,806	N78-28913*	c 73	NASA-CASE-NPO-13114-2 US-PATENT-APPL-SN-294738 US-PATENT-APPL-SN-634214 US-PATENT-CLASS-176-22 US-PATENT-CLASS-176-33 US-PATENT-CLASS-176-39 US-PATENT-CLASS-176-39 US-PATENT-4,085,004
N78-25319*	c 33	NASA-CASE-NPO-13909-1 US-PATENT-APPL-SN-744477 US-PATENT-CLASS-324-57DE US-PATENT-CLASS-324-57SS US-PATENT-CLASS-324-58A US-PATENT-4,084,132	N78-27184* #	c 24	NASA-CASE-ARC-11040-2 US-PATENT-APPL-SN-920878	N78-29421*	c 35	NASA-CASE-NPO-11954-1 US-PATENT-APPL-SN-229287 US-PATENT-CLASS-179-100.2CH US-PATENT-CLASS-340-174.1M US-PATENT-CLASS-340-174YC US-PATENT-CLASS-350-151 US-PATENT-3,775,570
N78-25350*	c 34	NASA-CASE-MSC-19568-1 US-PATENT-APPL-SN-681000 US-PATENT-CLASS-428-913 US-PATENT-CLASS-428-93 US-PATENT-CLASS-428-94 US-PATENT-CLASS-428-95 US-PATENT-CLASS-428-96 US-PATENT-CLASS-428-97 US-PATENT-CLASS-49-DIG.1 US-PATENT-CLASS-49-479 US-PATENT-CLASS-49-485 US-PATENT-4,078,110	N78-27226*	c 25	NASA-CASE-LEW-10518-3 US-PATENT-APPL-SN-394207 US-PATENT-CLASS-176-11 US-PATENT-CLASS-176-16 US-PATENT-CLASS-250-400 US-PATENT-CLASS-250-429 US-PATENT-CLASS-250-492B US-PATENT-4,088,532	N78-31129*	c 09	NASA-CASE-MSC-19706-1 US-PATENT-APPL-SN-767911 US-PATENT-CLASS-239-265.25 US-PATENT-CLASS-73-147 US-PATENT-4,091,665
N78-25351*	c 34	NASA-CASE-LEW-12718-1 US-PATENT-APPL-SN-779428 US-PATENT-CLASS-137-484.2 US-PATENT-CLASS-137-501 US-PATENT-CLASS-137-505.16 US-PATENT-4,084,612	N78-27326*	c 33	NASA-CASE-MFS-23312-1 US-PATENT-APPL-SN-699012 US-PATENT-CLASS-29-571 US-PATENT-CLASS-29-578 US-PATENT-CLASS-357-91 US-PATENT-4,087,902	N78-31232*	c 27	NASA-CASE-ARC-11008-1 US-PATENT-APPL-SN-708951 US-PATENT-CLASS-260-2.5N US-PATENT-CLASS-260-47CP US-PATENT-CLASS-260-63N US-PATENT-CLASS-260-78.41 US-PATENT-4,092,274
N78-25391*	c 35	NASA-CASE-NPO-13948-1 US-PATENT-APPL-SN-752748 US-PATENT-CLASS-204-195W US-PATENT-CLASS-73-336.5 US-PATENT-4,083,765	N78-27357*	c 34	NASA-CASE-LEW-11877-1 US-PATENT-APPL-SN-708660 US-PATENT-CLASS-431-10 US-PATENT-CLASS-431-328 US-PATENT-CLASS-431-7 US-PATENT-CLASS-60-39.65 US-PATENT-CLASS-60-39.69R US-PATENT-4,087,962	N78-31233*	c 27	NASA-CASE-ARC-11057-1 US-PATENT-APPL-SN-807762 US-PATENT-CLASS-350-165 US-PATENT-CLASS-350-175NG US-PATENT-CLASS-427-164 US-PATENT-CLASS-427-40 US-PATENT-CLASS-427-41 US-PATENT-CLASS-428-411 US-PATENT-CLASS-428-412 US-PATENT-CLASS-428-422 US-PATENT-CLASS-428-447 US-PATENT-CLASS-428-515 US-PATENT-CLASS-428-523 US-PATENT-CLASS-428-538 US-PATENT-4,091,166
N78-25426*	c 37	NASA-CASE-MSC-12731-1 US-PATENT-APPL-SN-690816 US-PATENT-CLASS-137-505.25 US-PATENT-CLASS-137-625.3 US-PATENT-CLASS-137-625.38 US-PATENT-4,083,380	N78-27384*	c 35	NASA-CASE-LAR-11973-1 US-PATENT-APPL-SN-821681 US-PATENT-CLASS-73-170A US-PATENT-CLASS-73-425.4R US-PATENT-CLASS-73-61R US-PATENT-4,089,209	N78-31255*	c 28	NASA-CASE-NPO-14103-1 US-PATENT-APPL-SN-797210 US-PATENT-CLASS-149-105 US-PATENT-CLASS-149-111 US-PATENT-CLASS-149-114 US-PATENT-CLASS-149-19.8 US-PATENT-CLASS-149-88 US-PATENT-CLASS-149-92 US-PATENT-CLASS-149-93 US-PATENT-4,092,188
N78-25527*	c 44	NASA-CASE-LEW-12552-1 US-PATENT-APPL-SN-770869 US-PATENT-CLASS-136-89CC US-PATENT-CLASS-29-572 US-PATENT-CLASS-357-30 US-PATENT-CLASS-357-65 US-PATENT-CLASS-357-67 US-PATENT-CLASS-427-261 US-PATENT-CLASS-427-75 US-PATENT-4,082,569	N78-27402*	c 36	NASA-CASE-NPO-13945-1 US-PATENT-APPL-SN-704180 US-PATENT-CLASS-331-94.5G US-PATENT-CLASS-331-94.5P US-PATENT-CLASS-331-94.5PE US-PATENT-4,088,965	N78-31321*	c 32	NASA-CASE-NPO-14022-1 US-PATENT-APPL-SN-780728 US-PATENT-CLASS-343-781CA US-PATENT-CLASS-343-782 US-PATENT-CLASS-343-837 US-PATENT-4,092,648
N78-25528*	c 44	NASA-CASE-LEW-12185-1 US-PATENT-APPL-SN-746269 US-PATENT-CLASS-136-89H US-PATENT-CLASS-136-89P US-PATENT-CLASS-29-572 US-PATENT-CLASS-29-628 US-PATENT-4,083,097	N78-27423*	c 37	NASA-CASE-MSC-16270-1 US-PATENT-APPL-SN-837260 US-PATENT-CLASS-269-21 US-PATENT-CLASS-269-266 US-PATENT-4,088,312	N78-31426*	c 37	NASA-CASE-GSC-11883-2 US-PATENT-APPL-SN-596787 US-PATENT-APPL-SN-747675 US-PATENT-CLASS-60-527 US-PATENT-CLASS-74-100R US-PATENT-4,010,455 US-PATENT-4,092,874
N78-25529*	c 44	NASA-CASE-LEW-12541-1 US-PATENT-APPL-SN-790637 US-PATENT-CLASS-136-89CC US-PATENT-CLASS-136-89H US-PATENT-CLASS-136-89P US-PATENT-CLASS-156-633 US-PATENT-CLASS-29-572 US-PATENT-4,084,985	N78-27424*	c 37	NASA-CASE-LAR-11889-2 US-PATENT-APPL-SN-662182 US-PATENT-APPL-SN-807703 US-PATENT-CLASS-308-10 US-PATENT-CLASS-73-178R US-PATENT-4,088,018	N78-31525*	c 44	NASA-CASE-NPO-13581-2 US-PATENT-APPL-SN-590975 US-PATENT-APPL-SN-811815 US-PATENT-CLASS-126-271 US-PATENT-CLASS-237-1A US-PATENT-4,091,800
N78-25530*	c 44	NASA-CASE-LEW-12649-1 US-PATENT-APPL-SN-720521 US-PATENT-CLASS-427-385B US-PATENT-CLASS-427-385C US-PATENT-CLASS-429-254 US-PATENT-4,085,241	N78-27425*	c 37	NASA-CASE-ARC-10981-1 US-PATENT-APPL-SN-738218 US-PATENT-CLASS-248-178 US-PATENT-CLASS-248-186 US-PATENT-4,088,291	N78-31526*	c 44	NASA-CASE-NPO-13813-1 NASA-CASE-NPO-13914-1 US-PATENT-APPL-SN-765139 US-PATENT-CLASS-126-270 US-PATENT-CLASS-126-271 US-PATENT-CLASS-350-299 US-PATENT-4,091,798
N78-25531*	c 44	NASA-CASE-MFS-23270-1 US-PATENT-APPL-SN-744573 US-PATENT-CLASS-320-13 US-PATENT-CLASS-320-15 US-PATENT-CLASS-320-32 US-PATENT-CLASS-320-39 US-PATENT-CLASS-320-9 US-PATENT-4,084,124	N78-27515*	c 44	NASA-CASE-NPO-12148-1 US-PATENT-APPL-SN-709415 US-PATENT-CLASS-136-89P US-PATENT-4,089,705	N78-31527*	c 44	NASA-CASE-NPO-13937-1 US-PATENT-APPL-SN-718137 US-PATENT-CLASS-201-17 US-PATENT-CLASS-44-1R US-PATENT-CLASS-44-2 US-PATENT-4,081,250
N78-27121*	c 07	NASA-CASE-LAR-11919-1 US-PATENT-APPL-SN-672221 US-PATENT-CLASS-239-265.25 US-PATENT-CLASS-239-265.33 US-PATENT-CLASS-60-230 US-PATENT-4,088,270	N78-27733*	c 51	NASA-CASE-ARC-10917-1 US-PATENT-APPL-SN-672223 US-PATENT-CLASS-119-29 US-PATENT-4,088,094	N78-31735*	c 54	NASA-CASE-ARC-11058-1 US-PATENT-APPL-SN-753965 US-PATENT-CLASS-2-2.1A US-PATENT-CLASS-285-235 US-PATENT-4,091,464
			N78-27904*	c 74	NASA-CASE-LAR-11869-1 US-PATENT-APPL-SN-740155 US-PATENT-CLASS-356-120 US-PATENT-CLASS-356-167 US-PATENT-4,088,408	N78-31736*	c 54	NASA-CASE-ARC-11100-1
			N78-27913*	c 75	NASA-CASE-MFS-22906-1 US-PATENT-APPL-SN-684807 US-PATENT-CLASS-29-81C US-PATENT-CLASS-313-231.3 US-PATENT-CLASS-315-111.2 US-PATENT-4,088,926			
			N78-28411*	c 35	NASA-CASE-KSC-11035-1 US-PATENT-APPL-SN-780874 US-PATENT-CLASS-324-130 US-PATENT-CLASS-324-32 US-PATENT-CLASS-324-74			

		US-PATENT-APPL-SN-780569	N78-32340*	c 33	NASA-CASE-GSC-12146-1		US-PATENT-CLASS-123-3
		US-PATENT-CLASS-2-2.1A			US-PATENT-APPL-SN-782480		US-PATENT-4,112,875
		US-PATENT-4,091,465			US-PATENT-CLASS-325-159	N78-33913*	c 74 NASA-CASE-NPO-10233-1
N78-32086*	c 05	NASA-CASE-LAR-11932-1			US-PATENT-CLASS-325-187		US-PATENT-APPL-SN-716885
		US-PATENT-APPL-SN-718244			US-PATENT-CLASS-333-17R		US-PATENT-CLASS-250-218
		US-PATENT-CLASS-244-218			US-PATENT-CLASS-333-81R		US-PATENT-CLASS-250-227
		US-PATENT-CLASS-244-45A			US-PATENT-4,092,617		US-PATENT-CLASS-250-239
		US-PATENT-CLASS-244-46	N78-32341*	c 33	NASA-CASE-LEW-12791-1		US-PATENT-CLASS-356-208
		US-PATENT-4,093,156			US-PATENT-APPL-SN-801432		US-PATENT-3,573,470
N78-32168* #	c 15	NASA-CASE-LAR-12264-1			US-PATENT-CLASS-363-101	N79-10057*	c 07 NASA-CASE-LEW-12232-1
		US-PATENT-APPL-SN-943087			US-PATENT-CLASS-363-16		US-PATENT-APPL-SN-776029
N78-32179*	c 20	NASA-CASE-NPO-11458A			US-PATENT-CLASS-363-60		US-PATENT-CLASS-415-115
		US-PATENT-APPL-SN-48621			US-PATENT-4,092,712		US-PATENT-CLASS-415-116
		US-PATENT-CLASS-102-103	N78-32395*	c 35	NASA-CASE-ARC-11036-1		US-PATENT-CLASS-60-39.14
		US-PATENT-CLASS-149-19.4			US-PATENT-APPL-SN-740457		US-PATENT-4,117,669
		US-PATENT-CLASS-149-42			US-PATENT-CLASS-33-366	N79-10162*	c 25 NASA-CASE-ARC-11053-1
		US-PATENT-CLASS-149-43			US-PATENT-4,094,073		US-PATENT-APPL-SN-814378
		US-PATENT-CLASS-149-44	N78-32396*	c 35	NASA-CASE-MFS-23363-1		US-PATENT-CLASS-23-252R
		US-PATENT-CLASS-149-76			US-PATENT-APPL-SN-730046		US-PATENT-CLASS-423-581
		US-PATENT-CLASS-149-83			US-PATENT-CLASS-324-173		US-PATENT-4,101,644
		US-PATENT-CLASS-149-85			US-PATENT-CLASS-324-207	N79-10163*	c 25 NASA-CASE-NPO-13274-1
		US-PATENT-4,116,131			US-PATENT-4,093,917		US-PATENT-APPL-SN-406296
N78-32229*	c 26	NASA-CASE-ARC-10992-1	N78-32397*	c 35	NASA-CASE-LAR-11617-2		US-PATENT-CLASS-204-180S
		US-PATENT-APPL-SN-760810			US-PATENT-APPL-SN-547072		US-PATENT-CLASS-204-299
		US-PATENT-CLASS-204-164			US-PATENT-APPL-SN-668771		US-PATENT-3,932,262
		US-PATENT-CLASS-204-175			US-PATENT-CLASS-324-249	N79-10262*	c 32 NASA-CASE-NPO-13941-1
		US-PATENT-CLASS-423-582			US-PATENT-4,093,054		US-PATENT-APPL-SN-774384
		US-PATENT-CLASS-423-583	N78-32447*	c 38	NASA-CASE-MFS-23114-1		US-PATENT-CLASS-307-233R
		US-PATENT-4,094,758			US-PATENT-APPL-SN-686331		US-PATENT-CLASS-324-77B
N78-32256*	c 27	NASA-CASE-MSC-14903-1			US-PATENT-CLASS-350-3.5		US-PATENT-CLASS-324-77C
		US-PATENT-APPL-SN-706424			US-PATENT-CLASS-356-72		US-PATENT-4,118,666
		US-PATENT-CLASS-260-2P			US-PATENT-CLASS-356-73	N79-10263*	c 32 NASA-CASE-MSC-12743-1
		US-PATENT-CLASS-260-551P			US-PATENT-CLASS-73-603		US-PATENT-APPL-SN-765167
		US-PATENT-CLASS-260-606-5P			US-PATENT-4,093,382		US-PATENT-CLASS-325-41
		US-PATENT-CLASS-260-959	N78-32539*	c 44	NASA-CASE-LAR-11208-1		US-PATENT-CLASS-340-146.1A
		US-PATENT-CLASS-526-13			US-PATENT-APPL-SN-710036		US-PATENT-CLASS-340-146.1E
		US-PATENT-CLASS-526-23			US-PATENT-CLASS-417-88		US-PATENT-4,100,531
		US-PATENT-CLASS-526-27			US-PATENT-CLASS-60-39.07	N79-10264*	c 32 NASA-CASE-MFS-22234-1
		US-PATENT-CLASS-526-275			US-PATENT-CLASS-60-39.14		US-PATENT-APPL-SN-730778
		US-PATENT-CLASS-526-276			US-PATENT-CLASS-60-39.33		US-PATENT-CLASS-343-6R
		US-PATENT-CLASS-526-278			US-PATENT-CLASS-98-1.5		US-PATENT-CLASS-343-9
		US-PATENT-CLASS-526-49			US-PATENT-4,091,613		US-PATENT-4,118,701
		US-PATENT-CLASS-526-50	N78-32542*	c 44	NASA-CASE-KSC-11034-1	N79-10337*	c 33 NASA-CASE-KSC-11018-1
		US-PATENT-CLASS-544-195			US-PATENT-APPL-SN-782481		US-PATENT-APPL-SN-782693
		US-PATENT-4,092,466			US-PATENT-CLASS-60-641		US-PATENT-CLASS-324-133
N78-32260*	c 27	NASA-CASE-ARC-11051-1			US-PATENT-CLASS-60-671		US-PATENT-CLASS-324-72
		US-PATENT-APPL-SN-736910			US-PATENT-CLASS-60-671		US-PATENT-CLASS-324-96
		US-PATENT-CLASS-106-48	N78-32720*	c 54	NASA-CASE-MSC-14805-1		US-PATENT-4,100,487
		US-PATENT-CLASS-106-54			US-PATENT-APPL-SN-688856	N79-10338*	c 33 NASA-CASE-GSC-12228-1
		US-PATENT-CLASS-427-215			US-PATENT-CLASS-340-213R		US-PATENT-APPL-SN-858764
		US-PATENT-CLASS-427-376A			US-PATENT-CLASS-340-262		US-PATENT-CLASS-324-57R
		US-PATENT-CLASS-427-376B			US-PATENT-CLASS-340-279		US-PATENT-CLASS-324-83D
		US-PATENT-CLASS-427-379			US-PATENT-CLASS-340-285		US-PATENT-CLASS-324-85
		US-PATENT-CLASS-427-380			US-PATENT-CLASS-340-309.1		US-PATENT-CLASS-328-163
		US-PATENT-CLASS-428-312			US-PATENT-4,092,633		US-PATENT-4,118,665
		US-PATENT-CLASS-428-325	N78-32721*	c 54	NASA-CASE-ARC-11059-1	N79-10339*	c 33 NASA-CASE-LEW-12013-1
		US-PATENT-CLASS-428-331			US-PATENT-APPL-SN-753978		US-PATENT-APPL-SN-768795
		US-PATENT-CLASS-428-341			US-PATENT-CLASS-128-142.7		US-PATENT-CLASS-301-82
		US-PATENT-CLASS-428-406			US-PATENT-CLASS-62-259		US-PATENT-CLASS-315-3.5
		US-PATENT-CLASS-428-427			US-PATENT-4,095,593		US-PATENT-CLASS-315-3.6
		US-PATENT-CLASS-428-428	N78-32848*	c 73	NASA-CASE-GSC-12083-1		US-PATENT-CLASS-330-43
		US-PATENT-CLASS-428-446			US-PATENT-APPL-SN-643897		US-PATENT-4,118,671
		US-PATENT-CLASS-428-920			US-PATENT-CLASS-350-170	N79-10389*	c 35 NASA-CASE-MFS-23461-1
		US-PATENT-CLASS-65-30R			US-PATENT-CLASS-350-173		US-PATENT-APPL-SN-694406
		US-PATENT-CLASS-65-60D			US-PATENT-CLASS-350-174		US-PATENT-CLASS-250-475
		US-PATENT-4,093,771			US-PATENT-CLASS-350-286		US-PATENT-CLASS-252-301.1R
N78-32261*	c 27	NASA-CASE-LAR-11828-1			US-PATENT-CLASS-350-320		US-PATENT-CLASS-252-301.16
		US-PATENT-APPL-SN-448321			US-PATENT-4,093,354		US-PATENT-CLASS-96-27R
		US-PATENT-APPL-SN-562992	N78-32854*	c 74	NASA-CASE-ARC-11039-1		US-PATENT-CLASS-96-60R
		US-PATENT-CLASS-260-47CP			US-PATENT-APPL-SN-750655		US-PATENT-4,101,780
		US-PATENT-CLASS-260-49			US-PATENT-CLASS-351-166	N79-10390*	c 35 NASA-CASE-LAR-12260-1
		US-PATENT-CLASS-260-63N			US-PATENT-CLASS-427-164		US-PATENT-CLASS-73-579
		US-PATENT-CLASS-260-63R			US-PATENT-CLASS-427-302		US-PATENT-CLASS-73-589
		US-PATENT-CLASS-260-65			US-PATENT-CLASS-427-322		US-PATENT-4,117,731
		US-PATENT-CLASS-260-78TF			US-PATENT-CLASS-427-38	N79-10391*	c 35 NASA-CASE-NPO-13862-1
		US-PATENT-4,094,862			US-PATENT-CLASS-427-387		US-PATENT-APPL-SN-744577
N78-32262*	c 27	NASA-CASE-MSC-14331-3			US-PATENT-CLASS-427-41		US-PATENT-CLASS-324-77K
		US-PATENT-APPL-SN-657998			US-PATENT-CLASS-427-44		US-PATENT-CLASS-343-17.2PC
		US-PATENT-CLASS-264-130			US-PATENT-CLASS-428-412		US-PATENT-CLASS-343-5CM
		US-PATENT-CLASS-264-184			US-PATENT-CLASS-428-447		US-PATENT-CLASS-343-5W
		US-PATENT-CLASS-264-211			US-PATENT-4,096,315		US-PATENT-4,101,891
		US-PATENT-CLASS-264-236	N78-33101*	c 07	NASA-CASE-LEW-12496-1	N79-10418*	c 37 NASA-CASE-LEW-12569-1
		US-PATENT-4,094,943			US-PATENT-APPL-SN-668971		US-PATENT-APPL-SN-792069
N78-32338*	c 33	NASA-CASE-GSC-12137-1			US-PATENT-CLASS-29-463		US-PATENT-CLASS-308-DIG.1
		US-PATENT-APPL-SN-808510			US-PATENT-CLASS-416-214A		US-PATENT-CLASS-308-121
		US-PATENT-CLASS-329-124			US-PATENT-CLASS-416-244A		US-PATENT-CLASS-308-160
		US-PATENT-CLASS-331-12			US-PATENT-CLASS-74-572		US-PATENT-CLASS-308-163
		US-PATENT-CLASS-331-4			US-PATENT-4,097,194		US-PATENT-CLASS-308-172
		US-PATENT-CLASS-331-64	N78-33228*	c 27	NASA-CASE-NPO-08835-1		US-PATENT-CLASS-308-5R
		US-PATENT-4,092,606			US-PATENT-APPL-SN-588721		US-PATENT-CLASS-308-9
N78-32339*	c 33	NASA-CASE-GSC-12145-1			US-PATENT-CLASS-260-28.5		US-PATENT-4,099,799
		US-PATENT-APPL-SN-769149			US-PATENT-3,527,724	N79-10419*	c 37 NASA-CASE-FRC-10111-1
		US-PATENT-CLASS-307-229	N78-33526*	c 44	NASA-CASE-NPO-13763-1		US-PATENT-APPL-SN-713027
		US-PATENT-CLASS-307-230			US-PATENT-APPL-SN-718268		US-PATENT-CLASS-30-90.6
		US-PATENT-CLASS-328-145			US-PATENT-CLASS-123-DIG.12		US-PATENT-CLASS-81-9.5R
		US-PATENT-4,091,329			US-PATENT-CLASS-123-1A		US-PATENT-4,117,749

N79-10420*	c 37	NASA-CASE-NPO-14014-1 US-PATENT-APPL-SN-826204 US-PATENT-CLASS-188-1C US-PATENT-CLASS-256-1 US-PATENT-CLASS-256-13.1 US-PATENT-4,118,014	US-PATENT-CLASS-325-4 US-PATENT-CLASS-325-67 US-PATENT-CLASS-343-17.7 US-PATENT-4,119,964	US-PATENT-CLASS-427-84 US-PATENT-4,122,214
N79-10421*	c 37	NASA-CASE-MFS-23620-1 US-PATENT-APPL-SN-799023 US-PATENT-CLASS-219-124.2-2 US-PATENT-CLASS-219-124.32 US-PATENT-CLASS-219-125.1 US-PATENT-CLASS-228-8 US-PATENT-4,118,620	N79-11313* c 33 NASA-CASE-MSC-16461-1 US-PATENT-APPL-SN-858765 US-PATENT-CLASS-307-232 US-PATENT-CLASS-328-133 US-PATENT-CLASS-331-1A US-PATENT-CLASS-331-14 US-PATENT-CLASS-331-23 US-PATENT-CLASS-331-27 US-PATENT-4,119,926	N79-11865* c 74 NASA-CASE-MFS-23513-1 US-PATENT-APPL-SN-755323 US-PATENT-CLASS-356-124 US-PATENT-CLASS-356-210 US-PATENT-4,102,580
N79-10422*	c 37	NASA-CASE-MFS-23051-1 US-PATENT-APPL-SN-632111 US-PATENT-CLASS-15-230.16 US-PATENT-CLASS-15-230.17 US-PATENT-CLASS-29-125 US-PATENT-CLASS-428-133 US-PATENT-CLASS-74-572 US-PATENT-4,098,142	N79-11314* c 33 NASA-CASE-NPO-13064-1 US-PATENT-APPL-SN-297436 US-PATENT-CLASS-357-22 US-PATENT-3,860,946	N79-11920* c 76 NASA-CASE-NPO-13918-1 US-PATENT-APPL-SN-706073 US-PATENT-CLASS-156-DIG.64 US-PATENT-CLASS-156-DIG.65 US-PATENT-CLASS-156-DIG.88 US-PATENT-CLASS-156-608 US-PATENT-CLASS-156-617SP US-PATENT-4,121,965
N79-10513*	c 44	NASA-CASE-NPO-13732-1 US-PATENT-APPL-SN-765138 US-PATENT-CLASS-429-13 US-PATENT-CLASS-429-41 US-PATENT-CLASS-429-42 US-PATENT-4,100,331	N79-11315* c 33 NASA-CASE-KSC-11031-1 US-PATENT-APPL-SN-782482 US-PATENT-CLASS-324-102 US-PATENT-CLASS-324-113 US-PATENT-CLASS-324-133 US-PATENT-4,105,966	N79-12061* c 05 NASA-CASE-FRC-10092-1 US-PATENT-APPL-SN-831634 US-PATENT-CLASS-244-48 US-PATENT-CLASS-244-82 US-PATENT-CLASS-244-90R US-PATENT-4,124,180
N79-10693*	c 51	NASA-CASE-MSC-16098-1 US-PATENT-APPL-SN-792068 US-PATENT-CLASS-210-23F US-PATENT-CLASS-210-433M US-PATENT-CLASS-210-96M US-PATENT-4,118,315	N79-11402* c 37 NASA-CASE-MSC-16043-1 US-PATENT-APPL-SN-750792 US-PATENT-CLASS-137-614.06 US-PATENT-CLASS-137-637.05 US-PATENT-CLASS-251-149.9 US-PATENT-CLASS-285-326 US-PATENT-CLASS-285-359 US-PATENT-4,103,712	N79-12221* c 27 NASA-CASE-MSC-12619-2 US-PATENT-APPL-SN-555750 US-PATENT-APPL-SN-786913 US-PATENT-CLASS-244-121 US-PATENT-CLASS-244-158 US-PATENT-CLASS-244-160 US-PATENT-CLASS-428-189 US-PATENT-CLASS-428-219 US-PATENT-CLASS-428-280 US-PATENT-CLASS-428-285 US-PATENT-CLASS-428-286 US-PATENT-CLASS-428-332 US-PATENT-CLASS-428-447 US-PATENT-CLASS-428-450 US-PATENT-CLASS-428-77 US-PATENT-CLASS-428-920 US-PATENT-4,124,732
N79-10694*	c 51	NASA-CASE-GSC-12173-1 US-PATENT-APPL-SN-806440 US-PATENT-CLASS-165-2 US-PATENT-CLASS-165-30 US-PATENT-CLASS-195-1.8 US-PATENT-CLASS-219-299 US-PATENT-CLASS-219-302 US-PATENT-CLASS-62-514R US-PATENT-CLASS-62-78 US-PATENT-4,117,881	N79-11403* c 37 NASA-CASE-LEW-12793-1 US-PATENT-APPL-SN-745766 US-PATENT-CLASS-60-39.08 US-PATENT-CLASS-60-39.28R US-PATENT-CLASS-60-39.66 US-PATENT-4,104,873	N79-12321* c 33 NASA-CASE-GSC-12190-1 US-PATENT-APPL-SN-817413 US-PATENT-CLASS-357-22 US-PATENT-CLASS-357-23 US-PATENT-CLASS-357-41 US-PATENT-CLASS-357-45 US-PATENT-CLASS-357-55 US-PATENT-4,119,996
N79-10724*	c 52	NASA-CASE-ARC-10985-1 US-PATENT-APPL-SN-769148 US-PATENT-CLASS-128-2.05R US-PATENT-CLASS-358-111 US-PATENT-CLASS-358-96 US-PATENT-CLASS-364-417 US-PATENT-4,101,961	N79-11404* c 37 NASA-CASE-MFS-23447-1 US-PATENT-APPL-SN-736909 US-PATENT-CLASS-308-194 US-PATENT-CLASS-308-72 US-PATENT-4,105,261	N79-12331* c 33 NASA-CASE-MSC-12662-1 US-PATENT-APPL-SN-540779 US-PATENT-CLASS-428-109 US-PATENT-CLASS-428-247 US-PATENT-CLASS-428-258 US-PATENT-CLASS-428-259 US-PATENT-4,107,363
N79-10969*	c 89	NASA-CASE-MFS-23675-1 US-PATENT-APPL-SN-820498 US-PATENT-CLASS-350-294 US-PATENT-CLASS-350-55 US-PATENT-4,101,195	N79-11405* c 37 NASA-CASE-NPO-13828-1 US-PATENT-APPL-SN-672636 US-PATENT-CLASS-123-148DC US-PATENT-CLASS-123-148E US-PATENT-CLASS-315-209DC US-PATENT-CLASS-315-209SC US-PATENT-CLASS-315-241R US-PATENT-4,122,816	N79-12359* c 34 NASA-CASE-LAR-11729-1 US-PATENT-APPL-SN-856461 US-PATENT-CLASS-73-189 US-PATENT-CLASS-73-194VS US-PATENT-4,122,712
N79-11108*	c 18	NASA-CASE-MFS-23579-1 US-PATENT-APPL-SN-829316 US-PATENT-CLASS-228-13 US-PATENT-CLASS-228-15.1 US-PATENT-CLASS-228-173 US-PATENT-CLASS-244-159 US-PATENT-4,122,991	N79-11406* c 44 NASA-CASE-LEW-12775-1 US-PATENT-APPL-SN-799026 US-PATENT-CLASS-136-89 US-PATENT-CLASS-148-188 US-PATENT-CLASS-29-572 US-PATENT-CLASS-427-75 US-PATENT-4,104,091	N79-12541* c 44 NASA-CASE-NPO-14100-1 US-PATENT-APPL-SN-861391 US-PATENT-CLASS-324-20R US-PATENT-CLASS-324-22 US-PATENT-4,122,383
N79-11151*	c 25	NASA-CASE-NPO-13958-1 US-PATENT-APPL-SN-745384 US-PATENT-CLASS-126-91A US-PATENT-CLASS-431-10 US-PATENT-CLASS-431-208 US-PATENT-CLASS-432-223 US-PATENT-CLASS-432-29 US-PATENT-4,104,018	N79-11469* c 44 NASA-CASE-MFS-23518-1 US-PATENT-APPL-SN-829390 US-PATENT-CLASS-204-32 US-PATENT-CLASS-204-33 US-PATENT-CLASS-204-37R US-PATENT-CLASS-204-38B US-PATENT-4,104,134	N79-12584* c 45 NASA-CASE-MSC-16258-1 US-PATENT-APPL-SN-853705 US-PATENT-CLASS-210-50 US-PATENT-CLASS-210-60 US-PATENT-CLASS-210-63R US-PATENT-CLASS-423-242 US-PATENT-CLASS-55-73 US-PATENT-4,123,355
N79-11152*	c 25	NASA-CASE-NPO-13904-1 US-PATENT-APPL-SN-730468 US-PATENT-CLASS-208-10 US-PATENT-CLASS-208-8 US-PATENT-CLASS-302-66 US-PATENT-CLASS-44-51 US-PATENT-4,121,995	N79-11470* c 44 NASA-CASE-NPO-14126-1 US-PATENT-APPL-SN-838336 US-PATENT-CLASS-204-157.1R US-PATENT-CLASS-250-527 US-PATENT-4,105,517	N79-12694* c 52 NASA-CASE-NPO-13913-1 US-PATENT-APPL-SN-687251 US-PATENT-CLASS-128-2R US-PATENT-CLASS-364-120 US-PATENT-CLASS-364-300 US-PATENT-CLASS-364-415 US-PATENT-CLASS-364-900 US-PATENT-4,122,518
N79-11215* #	c 27	NASA-CASE-ARC-11170-1 US-PATENT-APPL-SN-956161	N79-11471* c 44 NASA-CASE-NPO-13817-1 US-PATENT-APPL-SN-801452 US-PATENT-CLASS-126-270 US-PATENT-CLASS-126-271 US-PATENT-CLASS-350-288 US-PATENT-CLASS-350-299 US-PATENT-4,122,833	N79-12890* c 74 NASA-CASE-KSC-11010-1 US-PATENT-APPL-SN-753977 US-PATENT-CLASS-200-46 US-PATENT-CLASS-200-61 US-PATENT-CLASS-250-214AL US-PATENT-CLASS-250-214R US-PATENT-CLASS-315-153 US-PATENT-4,122,334
N79-11231*	c 28	NASA-CASE-NPO-13858-1 NASA-CASE-NPO-13859-1 US-PATENT-APPL-SN-740153 US-PATENT-CLASS-102-28R US-PATENT-4,103,619	N79-11472* c 44 NASA-CASE-LEW-12552-2 US-PATENT-APPL-SN-844346 US-PATENT-CLASS-29-572 US-PATENT-CLASS-427-123 US-PATENT-CLASS-427-126 US-PATENT-CLASS-427-261 US-PATENT-CLASS-427-343 US-PATENT-CLASS-427-398A US-PATENT-CLASS-427-399 US-PATENT-CLASS-427-75	N79-13214* c 32 NASA-CASE-NPO-14009-1 US-PATENT-APPL-SN-818917 US-PATENT-CLASS-343-117R US-PATENT-CLASS-343-118 US-PATENT-CLASS-343-7.4 US-PATENT-4,122,454
N79-11246*	c 31	NASA-CASE-LAR-12147-1 US-PATENT-APPL-SN-733825 US-PATENT-CLASS-73-159 US-PATENT-CLASS-73-95 US-PATENT-4,103,550	N79-13288* c 34 NASA-CASE-LEW-12252-1 US-PATENT-APPL-SN-559847 US-PATENT-CLASS-165-169	
N79-11264*	c 32	NASA-CASE-MSC-14939-1 US-PATENT-APPL-SN-765165 US-PATENT-CLASS-343-844 US-PATENT-CLASS-343-854 US-PATENT-4,119,972		
N79-11265*	c 32	NASA-CASE-GSC-12150-1 US-PATENT-APPL-SN-736286		

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N79-22475*	c 37	NASA-CASE-LEW-11873-1 US-PATENT-APPL-SN-814006 US-PATENT-CLASS-277-62 US-PATENT-CLASS-277-96.1 US-PATENT-4,145,058	N79-24431*	c 44	NASA-CASE-NPO-13652-2 US-PATENT-APPL-SN-848794 US-PATENT-CLASS-228-5.1 US-PATENT-CLASS-228-6 US-PATENT-CLASS-29-57.4 US-PATENT-CLASS-29-572 US-PATENT-CLASS-29-739 US-PATENT-CLASS-29-809 US-PATENT-4,149,665	N79-26075*	c 12	NASA-CASE-MFS-23460-1 US-PATENT-APPL-SN-746578 US-PATENT-CLASS-13-20 US-PATENT-CLASS-13-22 US-PATENT-CLASS-13-24 US-PATENT-CLASS-219-410 US-PATENT-4,158,742
N79-22537*	c 39	NASA-CASE-LAR-12027-1 US-PATENT-APPL-SN-889670 US-PATENT-CLASS-73-770 US-PATENT-CLASS-73-810 US-PATENT-4,145,933	N79-24432*	c 44	NASA-CASE-NPO-13579-3 US-PATENT-APPL-SN-762363 US-PATENT-CLASS-126-270 US-PATENT-CLASS-264-1 US-PATENT-CLASS-264-33 US-PATENT-CLASS-264-34 US-PATENT-CLASS-264-35 US-PATENT-CLASS-264-510 US-PATENT-CLASS-264-516 US-PATENT-CLASS-264-70 US-PATENT-CLASS-264-71 US-PATENT-CLASS-350-292 US-PATENT-CLASS-350-294 US-PATENT-CLASS-350-296 US-PATENT-CLASS-405-229 US-PATENT-CLASS-405-263 US-PATENT-4,149,817	N79-26100*	c 15	NASA-CASE-ARC-11104-1 US-PATENT-APPL-SN-854920 US-PATENT-CLASS-244-121 US-PATENT-CLASS-260-37EP US-PATENT-CLASS-260-830S US-PATENT-CLASS-264-102 US-PATENT-CLASS-264-145 US-PATENT-CLASS-264-151 US-PATENT-CLASS-264-175 US-PATENT-CLASS-264-236 US-PATENT-CLASS-423-225 US-PATENT-CLASS-428-413 US-PATENT-CLASS-428-414 US-PATENT-CLASS-428-418 US-PATENT-CLASS-428-421 US-PATENT-CLASS-428-920 US-PATENT-4,156,752
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N79-23097*	c 08	NASA-CASE-LAR-12215-1 US-PATENT-APPL-SN-858762 US-PATENT-CLASS-244-17.13 US-PATENT-CLASS-244-195 US-PATENT-CLASS-244-83G US-PATENT-CLASS-318-585 US-PATENT-CLASS-318-616 US-PATENT-CLASS-364-434 US-PATENT-4,148,452	N79-24651*	c 54	NASA-CASE-ARC-11058-2 US-PATENT-APPL-SN-753965 US-PATENT-APPL-SN-883094 US-PATENT-CLASS-2-2.1A US-PATENT-CLASS-285-235 US-PATENT-4,091,464 US-PATENT-4,151,612	N79-26439*	c 43	NASA-CASE-MFS-23726-1 US-PATENT-APPL-SN-848418 US-PATENT-CLASS-105-161 US-PATENT-CLASS-299-1 US-PATENT-CLASS-33-1N US-PATENT-CLASS-33-1Q US-PATENT-CLASS-33-174L US-PATENT-CLASS-364-560 US-PATENT-4,156,971
N79-23310*	c 32	NASA-CASE-KSC-11023-1 US-PATENT-APPL-SN-918533 US-PATENT-CLASS-179-1MN US-PATENT-CLASS-179-27CA US-PATENT-CLASS-179-84VF US-PATENT-4,153,818	N79-24652*	c 54	NASA-CASE-NPO-13906-1 US-PATENT-APPL-SN-837259 US-PATENT-CLASS-3-1.1 US-PATENT-CLASS-3-12.5 US-PATENT-CLASS-414-6 US-PATENT-4,149,278	N79-26474*	c 44	NASA-CASE-LEW-13150-1 US-PATENT-APPL-SN-914260 US-PATENT-CLASS-429-101 US-PATENT-CLASS-429-15 US-PATENT-4,159,366
N79-23345*	c 33	NASA-CASE-FRC-10116-1 US-PATENT-APPL-SN-885049 US-PATENT-CLASS-323-22T US-PATENT-4,151,456	N79-24976*	c 05	NASA-CASE-LEW-11890-1 US-PATENT-APPL-SN-891244 US-PATENT-CLASS-137-15.1 US-PATENT-CLASS-244-53B US-PATENT-4,154,256	N79-26475*	c 44	NASA-CASE-MFS-23540-1 US-PATENT-APPL-SN-863773 US-PATENT-CLASS-29-572 US-PATENT-CLASS-29-577 US-PATENT-CLASS-29-578 US-PATENT-CLASS-29-580 US-PATENT-CLASS-357-45 US-PATENT-4,156,309
N79-23481*	c 44	NASA-CASE-MFS-23349-1 US-PATENT-APPL-SN-823061 US-PATENT-CLASS-126-270 US-PATENT-CLASS-126-271 US-PATENT-4,148,295	N79-25142*	c 24	NASA-CASE-MSC-12737-1 US-PATENT-APPL-SN-788045 US-PATENT-CLASS-102-105 US-PATENT-CLASS-244-121 US-PATENT-CLASS-244-163 US-PATENT-CLASS-427-350 US-PATENT-CLASS-427-372A US-PATENT-CLASS-428-137 US-PATENT-CLASS-428-282 US-PATENT-CLASS-428-290 US-PATENT-CLASS-428-332 US-PATENT-CLASS-428-447 US-PATENT-CLASS-428-920 US-PATENT-4,151,800	N79-26771*	c 52	NASA-CASE-ARC-10994-2 US-PATENT-APPL-SN-759965 US-PATENT-CLASS-128-660 US-PATENT-CLASS-73-626 US-PATENT-4,154,230
N79-23555*	c 46	NASA-CASE-NPO-14255-1 US-PATENT-APPL-SN-830458 US-PATENT-CLASS-181-115 US-PATENT-CLASS-181-120 US-PATENT-CLASS-340-12R US-PATENT-4,153,134	N79-25443*	c 43	NASA-CASE-MFS-23720-3 US-PATENT-APPL-SN-848420 US-PATENT-CLASS-73-12 US-PATENT-CLASS-73-82 US-PATENT-4,154,084	N79-26772*	c 52	NASA-CASE-KSC-11069-1 US-PATENT-APPL-SN-876438 US-PATENT-CLASS-3-1.9 US-PATENT-CLASS-3-12 US-PATENT-CLASS-3-2 US-PATENT-4,158,895
N79-23753*	c 71	NASA-CASE-NPO-14134-1 US-PATENT-APPL-SN-861392 US-PATENT-CLASS-179-1DM US-PATENT-CLASS-179-1MF US-PATENT-CLASS-181-148 US-PATENT-CLASS-340-8LF US-PATENT-4,149,034	N79-25481*	c 44	NASA-CASE-LEW-12972-1 US-PATENT-APPL-SN-897829 US-PATENT-CLASS-429-253 US-PATENT-CLASS-526-7 US-PATENT-CLASS-526-9 US-PATENT-4,154,912	N79-27836*	c 52	NASA-CASE-NPO-13910-1 US-PATENT-APPL-SN-712270 US-PATENT-CLASS-128-329R US-PATENT-CLASS-128-639 US-PATENT-4,154,228
N79-23798*	c 76	NASA-CASE-NPO-13969-1 US-PATENT-APPL-SN-820499 US-PATENT-CLASS-156-DIG.6-8 US-PATENT-CLASS-156-617SP US-PATENT-CLASS-423-345 US-PATENT-4,152,194	N79-25482*	c 44	NASA-CASE-LEW-12972-1 US-PATENT-APPL-SN-897829 US-PATENT-CLASS-429-253 US-PATENT-CLASS-526-7 US-PATENT-CLASS-526-9 US-PATENT-4,154,912	N79-28253*	c 25	NASA-CASE-NPO-13650-1 US-PATENT-APPL-SN-704468 US-PATENT-CLASS-118-49 US-PATENT-CLASS-23-252R US-PATENT-CLASS-248 US-PATENT-CLASS-253 US-PATENT-CLASS-337 US-PATENT-CLASS-349 US-PATENT-CLASS-423-33.5 US-PATENT-CLASS-427-95 US-PATENT-4,033,286
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N79-24073*	c 25	NASA-CASE-LAR-11922-1 US-PATENT-APPL-SN-856460 US-PATENT-CLASS-195-127 US-PATENT-CLASS-204-195B US-PATENT-4,149,938	N79-25484*	c 43	NASA-CASE-MFS-23720-3 US-PATENT-APPL-SN-848420 US-PATENT-CLASS-73-12 US-PATENT-CLASS-73-82 US-PATENT-4,154,084			
N79-24203*	c 32	NASA-CASE-LAR-12375-1 US-PATENT-APPL-SN-900842 US-PATENT-CLASS-73-647 US-PATENT-CLASS-73-724 US-PATENT-4,149,423	N79-25485*	c 43	NASA-CASE-MFS-23720-3 US-PATENT-APPL-SN-848420 US-PATENT-CLASS-73-12 US-PATENT-CLASS-73-82 US-PATENT-4,154,084			
N79-24210*	c 32	NASA-CASE-NPO-13641-1 US-PATENT-APPL-SN-777983 US-PATENT-CLASS-343-100TD US-PATENT-4,148,031	N79-25486*	c 43	NASA-CASE-MFS-23720-3 US-PATENT-APPL-SN-848420 US-PATENT-CLASS-73-12 US-PATENT-CLASS-73-82 US-PATENT-4,154,084			
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N79-24257*	c 33	NASA-CASE-NPO-14056-1 US-PATENT-APPL-SN-833637	N79-25488*	c 43	NASA-CASE-MFS-23720-3 US-PATENT-APPL-SN-848420 US-PATENT-CLASS-73-12 US-PATENT-CLASS-73-82 US-PATENT-4,154,084			



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			US-PATENT-CLASS-356-404					US-PATENT-3,233,862				US-PATENT-CLASS-343-18A
			US-PATENT-4,160,601		N79-34011*	c 74	.....	NASA-CASE-NPO-14066-1				US-PATENT-CLASS-343-909
N79-28549*	c 37	.....	NASA-CASE-GSC-12297-1					US-PATENT-APPL-SN-827464				US-PATENT-4,164,718
			US-PATENT-APPL-SN-880838					US-PATENT-CLASS-250-216	N80-14330*	c 33	.....	NASA-CASE-NPO-10857-1
			US-PATENT-CLASS-165-105					US-PATENT-CLASS-250-551				US-PATENT-APPL-SN-888362
			US-PATENT-CLASS-357-74		N80-10278*	c 20	.....	US-PATENT-4,166,959				US-PATENT-CLASS-315-145
			US-PATENT-CLASS-357-79					NASA-CASE-MFS-23642-1				US-PATENT-CLASS-315-260
			US-PATENT-CLASS-357-81					US-PATENT-APPL-SN-923758				US-PATENT-CLASS-315-334
			US-PATENT-CLASS-357-82					US-PATENT-CLASS-137-177				US-PATENT-3,635,537
			US-PATENT-CLASS-357-83					US-PATENT-CLASS-137-209	N80-14332*	c 33	.....	NASA-CASE-NPO-14350-1
			US-PATENT-4,161,747					US-PATENT-CLASS-137-574				US-PATENT-APPL-SN-921627
N79-28550*	c 37	.....	NASA-CASE-GSC-12274-1					US-PATENT-CLASS-137-576				US-PATENT-CLASS-250-310
			US-PATENT-APPL-SN-909100					US-PATENT-CLASS-137-590				US-PATENT-CLASS-250-492A
			US-PATENT-CLASS-251-7					US-PATENT-CLASS-244-135R				US-PATENT-CLASS-324-158T
			US-PATENT-CLASS-72-436		N80-10358*	c 27	.....	US-PATENT-4,168,718				US-PATENT-4,172,228
			US-PATENT-CLASS-72-451					NASA-CASE-MSC-14903-2	N80-14371*	c 35	.....	NASA-CASE-LAR-11690-1
			US-PATENT-CLASS-72-470					US-PATENT-APPL-SN-706424				US-PATENT-APPL-SN-928129
			US-PATENT-4,159,634					US-PATENT-APPL-SN-907435				US-PATENT-CLASS-73-655
N79-28551*	c 37	.....	NASA-CASE-ARC-11052-1					US-PATENT-CLASS-260-926				US-PATENT-CLASS-73-661
			US-PATENT-APPL-SN-826202					US-PATENT-4,092,466				US-PATENT-4,171,645
			US-PATENT-CLASS-414-4		N80-10374*	c 28	.....	US-PATENT-4,168,287	N80-14384*	c 36	.....	NASA-CASE-GSC-12237-1
			US-PATENT-4,160,508					NASA-CASE-NPO-13849-1				US-PATENT-APPL-SN-837795
N79-31228*	c 09	.....	NASA-CASE-LAR-12149-2					NASA-CASE-NPO-13907-1				US-PATENT-CLASS-331-94.5C
			US-PATENT-APPL-SN-829314					US-PATENT-APPL-SN-668783				US-PATENT-CLASS-331-94.5P
			US-PATENT-APPL-SN-928131					US-PATENT-CLASS-123-DIG. 12				US-PATENT-4,173,001
			US-PATENT-CLASS-35-12E					US-PATENT-CLASS-123-179R	N80-14395*	c 37	.....	NASA-CASE-XNP-08835-1
			US-PATENT-CLASS-35-12H					US-PATENT-CLASS-123-3				US-PATENT-APPL-SN-534931
			US-PATENT-4,164,079					US-PATENT-CLASS-23-288R				US-PATENT-CLASS-204-224
N79-31347*	c 24	.....	NASA-CASE-GSC-12303-1					US-PATENT-CLASS-423-650				US-PATENT-3,352,774
			US-PATENT-APPL-SN-862880					US-PATENT-CLASS-48-DIG. 8	N80-14397*	c 37	.....	NASA-CASE-MFS-23284-1
			US-PATENT-CLASS-106-74					US-PATENT-CLASS-48-10-3				US-PATENT-APPL-SN-753103
			US-PATENT-CLASS-106-84					US-PATENT-CLASS-48-102A				US-PATENT-CLASS-204-180G
			US-PATENT-4,162,169					US-PATENT-CLASS-48-107				US-PATENT-CLASS-204-299R
N79-31523*	c 34	.....	NASA-CASE-GSC-12253-1					US-PATENT-CLASS-48-117				US-PATENT-4,040,940
			US-PATENT-APPL-SN-853677					US-PATENT-CLASS-48-61	N80-14398*	c 37	.....	NASA-CASE-GSC-12322-1
			US-PATENT-CLASS-165-105					US-PATENT-CLASS-60-300				US-PATENT-APPL-SN-907436
			US-PATENT-CLASS-165-32					US-PATENT-CLASS-60-606				US-PATENT-CLASS-244-161
			US-PATENT-CLASS-244-1R					US-PATENT-4,033,133				US-PATENT-CLASS-269-156
			US-PATENT-CLASS-244-163		N80-10494*	c 37	.....	NASA-CASE-NPO-14384-1				US-PATENT-CLASS-294-113
			US-PATENT-4,162,701					US-PATENT-APPL-SN-880728				US-PATENT-CLASS-294-86R
N79-31706*	c 43	.....	NASA-CASE-MFS-23725-1					US-PATENT-CLASS-210-186				US-PATENT-CLASS-414-1
			US-PATENT-APPL-SN-848793					US-PATENT-CLASS-210-340				US-PATENT-4,173,324
			US-PATENT-CLASS-250-253					US-PATENT-CLASS-239-102	N80-14423*	c 43	.....	NASA-CASE-MFS-23720-2
			US-PATENT-CLASS-250-272					US-PATENT-CLASS-239-302				US-PATENT-APPL-SN-848421
			US-PATENT-4,165,460					US-PATENT-CLASS-422-187				US-PATENT-CLASS-73-12
N79-31752*	c 44	.....	NASA-CASE-NPO-14205-1					US-PATENT-CLASS-422-199				US-PATENT-CLASS-73-82
			US-PATENT-APPL-SN-920879					US-PATENT-CLASS-422-208				US-PATENT-4,157,655
			US-PATENT-CLASS-106-1					US-PATENT-CLASS-422-235	N80-14472*	c 44	.....	NASA-CASE-LEW-12586-1
			US-PATENT-CLASS-106-1.2					US-PATENT-CLASS-422-242				US-PATENT-APPL-SN-916655
			US-PATENT-CLASS-136-89CC					US-PATENT-CLASS-423-350				US-PATENT-CLASS-307-63
			US-PATENT-CLASS-252-514					US-PATENT-4,169,129				US-PATENT-CLASS-307-66
			US-PATENT-CLASS-29-572		N80-10507*	c 39	.....	NASA-CASE-NPO-14192-1				US-PATENT-CLASS-323-15
			US-PATENT-CLASS-29-589					US-PATENT-APPL-SN-830562				US-PATENT-CLASS-323-19
			US-PATENT-CLASS-357-30					US-PATENT-CLASS-181-102				US-PATENT-4,175,240
			US-PATENT-CLASS-357-65					US-PATENT-CLASS-181-105	N80-14473*	c 44	.....	NASA-CASE-MFS-23727-1
			US-PATENT-CLASS-357-67					US-PATENT-CLASS-367-26				US-PATENT-APPL-SN-856465
			US-PATENT-CLASS-427-88					US-PATENT-CLASS-467-28				US-PATENT-CLASS-126-438
			US-PATENT-4,163,678					US-PATENT-4,168,483				US-PATENT-CLASS-126-442
N79-31753*	c 44	.....	NASA-CASE-NPO-14467-1		N80-10709*	c 46	.....	NASA-CASE-NPO-14231-1				US-PATENT-CLASS-350-295
			US-PATENT-APPL-SN-946994					US-PATENT-APPL-SN-903019				US-PATENT-CLASS-350-296
			US-PATENT-CLASS-136-89PC					US-PATENT-CLASS-175-78				US-PATENT-4,173,397
			US-PATENT-4,162,928					US-PATENT-CLASS-73-155	N80-14474*	c 44	.....	NASA-CASE-NPO-13652-3
								US-PATENT-4,167,111				

				US-PATENT-APPL-SN-809890	US-PATENT-CLASS-73-188	US-PATENT-CLASS-156-278
				US-PATENT-APPL-SN-891358	US-PATENT-CLASS-73-189	US-PATENT-CLASS-156-285
				US-PATENT-CLASS-136-89P	US-PATENT-CLASS-73-212	US-PATENT-CLASS-156-303
				US-PATENT-CLASS-29-572	US-PATENT-4,184,149	US-PATENT-CLASS-156-312
				US-PATENT-CLASS-29-588	NASA-CASE-LEW-12971-1	US-PATENT-4,184,903
				US-PATENT-CLASS-29-627	US-PATENT-APPL-SN-858936	NASA-CASE-NPO-14096-1
				US-PATENT-4,133,697	US-PATENT-CLASS-60-240	US-PATENT-APPL-SN-928128
				US-PATENT-4,173,820	US-PATENT-CLASS-60-39.03	US-PATENT-CLASS-324-158D
N80-14579*	c 45			NASA-CASE-NPO-14340-1	US-PATENT-CLASS-60-39.27	US-PATENT-CLASS-324-404
				US-PATENT-APPL-SN-946992	US-PATENT-4,184,327	US-PATENT-4,184,111
				US-PATENT-CLASS-210-57	NASA-CASE-MS-C-18179-1	NASA-CASE-LAR-11999-1
				US-PATENT-CLASS-210-63Z	US-PATENT-APPL-SN-931218	US-PATENT-APPL-SN-876299
				US-PATENT-CLASS-422-9	US-PATENT-CLASS-60-63Z	US-PATENT-CLASS-250-211K
				US-PATENT-4,172,786	US-PATENT-4,183,217	US-PATENT-CLASS-250-231SE
N80-14603*	c 46			NASA-CASE-NPO-14124-1	NASA-CASE-NPO-14382-1	US-PATENT-4,184,072
				US-PATENT-APPL-SN-863024	US-PATENT-APPL-SN-891373	NASA-CASE-MFS-23862-1
				US-PATENT-CLASS-343-100ME	US-PATENT-CLASS-261-118	US-PATENT-APPL-SN-951423
				US-PATENT-CLASS-343-112D	US-PATENT-CLASS-422-224	US-PATENT-CLASS-73-170A
				US-PATENT-4,170,776	US-PATENT-CLASS-423-350	US-PATENT-4,184,368
N80-14684*	c 52			NASA-CASE-LEW-12955-1	US-PATENT-4,188,368	NASA-CASE-LEW-12723-1
				US-PATENT-APPL-SN-829318	NASA-CASE-NPO-14152-1	US-PATENT-APPL-SN-829317
				US-PATENT-CLASS-128-276	US-PATENT-APPL-SN-899828	US-PATENT-CLASS-128-276
				US-PATENT-4,157,718	US-PATENT-CLASS-178-58R	US-PATENT-CLASS-128-760
N80-14687*	c 52			NASA-CASE-NPO-14101-1	US-PATENT-CLASS-179-15BA	US-PATENT-4,184,491
				US-PATENT-APPL-SN-772434	US-PATENT-4,187,394	NASA-CASE-ARC-11120-1
				US-PATENT-CLASS-210-22	NASA-CASE-NPO-14328-1	US-PATENT-APPL-SN-796256
				US-PATENT-CLASS-210-321B	NASA-CASE-NPO-14579-1	US-PATENT-CLASS-128-748
				US-PATENT-4,094,775	NASA-CASE-NPO-14590-1	US-PATENT-CLASS-128-903
N80-14877*	c 72			NASA-CASE-NPO-14078-1	US-PATENT-APPL-SN-956160	US-PATENT-CLASS-73-724
				US-PATENT-APPL-SN-856466	US-PATENT-CLASS-325-305	US-PATENT-4,186,749
				US-PATENT-CLASS-250-281	US-PATENT-CLASS-325-307	NASA-CASE-GSC-12291-1
				US-PATENT-CLASS-250-282	US-PATENT-CLASS-325-419	US-PATENT-APPL-SN-906298
				US-PATENT-CLASS-250-423P	US-PATENT-4,186,347	US-PATENT-CLASS-125-23R
				US-PATENT-4,158,775	NASA-CASE-NPO-14229-1	US-PATENT-CLASS-269-21
N80-16116*	c 25			NASA-CASE-ARC-11107-1	US-PATENT-APPL-SN-835419	US-PATENT-CLASS-51-235
				US-PATENT-APPL-SN-883961	US-PATENT-APPL-SN-949886	US-PATENT-CLASS-83-152
				US-PATENT-CLASS-521-124	US-PATENT-CLASS-200-153S	US-PATENT-CLASS-83-870
				US-PATENT-CLASS-521-125	US-PATENT-CLASS-200-304	US-PATENT-4,184,472
				US-PATENT-CLASS-521-127	US-PATENT-CLASS-333-262	NASA-CASE-LAR-12261-1
				US-PATENT-CLASS-521-157	US-PATENT-4,187,416	US-PATENT-APPL-SN-964009
				US-PATENT-CLASS-528-73	NASA-CASE-GSC-12347-1	US-PATENT-CLASS-73-147
				US-PATENT-4,177,333	US-PATENT-APPL-SN-868249	US-PATENT-CLASS-73-205L
N80-16158*	c 27			NASA-CASE-LAR-12099-1	US-PATENT-CLASS-174-142	US-PATENT-4,188,823
				US-PATENT-APPL-SN-906299	US-PATENT-CLASS-174-73R	NASA-CASE-NPO-14079-1
				US-PATENT-CLASS-528-207	US-PATENT-4,185,164	US-PATENT-APPL-SN-958573
				US-PATENT-CLASS-528-208	NASA-CASE-NPO-14224-1	US-PATENT-CLASS-250-307
				US-PATENT-4,180,648	US-PATENT-APPL-SN-951829	US-PATENT-CLASS-250-308
N80-16163* #	c 27			NASA-CASE-NPO-14021-2	US-PATENT-CLASS-310-306	US-PATENT-4,194,115
				US-PATENT-APPL-SN-106188	US-PATENT-CLASS-343-100R	NASA-CASE-LEW-12081-2
N80-16261* #	c 32			NASA-CASE-NPO-14362-1	US-PATENT-CLASS-343-100R	US-PATENT-APPL-SN-676432
				US-PATENT-APPL-SN-106118	US-PATENT-CLASS-343-100ST	US-PATENT-APPL-SN-837794
N80-16321*	c 36			NASA-CASE-LAR-12176-1	US-PATENT-4,187,506	US-PATENT-CLASS-149-1
				US-PATENT-APPL-SN-929083	NASA-CASE-NPO-14501-1	US-PATENT-CLASS-423-648R
				US-PATENT-CLASS-332-751	US-PATENT-APPL-SN-918535	US-PATENT-4,193,827
				US-PATENT-CLASS-350-359	US-PATENT-CLASS-264-40.4	NASA-CASE-NPO-14480-1
				US-PATENT-CLASS-356-243	US-PATENT-CLASS-73-343R	US-PATENT-APPL-SN-910707
				US-PATENT-CLASS-356-28	US-PATENT-CLASS-73-56	US-PATENT-CLASS-325-14
				US-PATENT-4,176,950	US-PATENT-4,185,493	US-PATENT-CLASS-325-14
N80-16452*	c 44			NASA-CASE-MFS-23518-3	NASA-CASE-LAR-12269-1	US-PATENT-CLASS-325-8
				US-PATENT-APPL-SN-829390	US-PATENT-APPL-SN-934576	US-PATENT-CLASS-325-9
				US-PATENT-APPL-SN-910793	US-PATENT-CLASS-73-4R	US-PATENT-CLASS-325-9
				US-PATENT-CLASS-126-417	US-PATENT-CLASS-73-40	US-PATENT-4,189,675
				US-PATENT-CLASS-126-901	US-PATENT-4,182,158	NASA-CASE-LEW-13148-1
				US-PATENT-CLASS-428-629	NASA-CASE-GSC-12219-1	US-PATENT-APPL-SN-964754
				US-PATENT-CLASS-428-650	US-PATENT-APPL-SN-891356	US-PATENT-CLASS-429-101
				US-PATENT-CLASS-428-658	US-PATENT-CLASS-325-363	US-PATENT-CLASS-429-105
				US-PATENT-CLASS-428-675	US-PATENT-CLASS-343-100ME	US-PATENT-CLASS-429-107
				US-PATENT-CLASS-428-680	US-PATENT-CLASS-356-216	US-PATENT-CLASS-429-109
				US-PATENT-4,104,134	US-PATENT-CLASS-73-355R	US-PATENT-4,192,910
				US-PATENT-4,177,325	US-PATENT-4,178,100	NASA-CASE-LAR-12304-1
N80-16714*	c 51			NASA-CASE-MS-C-16260-1	NASA-CASE-NPO-13606-2	US-PATENT-APPL-SN-928130
				US-PATENT-APPL-SN-876440	US-PATENT-APPL-SN-065676	US-PATENT-CLASS-29-25.35
				US-PATENT-CLASS-23-927	NASA-CASE-NPO-14254-1	US-PATENT-CLASS-310-311
				US-PATENT-CLASS-422-52	US-PATENT-APPL-SN-876432	US-PATENT-CLASS-310-327
				US-PATENT-CLASS-435-34	US-PATENT-CLASS-330-4	US-PATENT-CLASS-310-334
				US-PATENT-4,176,007	US-PATENT-CLASS-331-94	US-PATENT-CLASS-310-360
N80-16715*	c 51			NASA-CASE-MFS-23883-1	US-PATENT-CLASS-333-24R	US-PATENT-4,195,244
				US-PATENT-APPL-SN-017888	US-PATENT-4,187,470	NASA-CASE-FRC-10093-1
				US-PATENT-CLASS-204-180R	NASA-CASE-ARC-11157-1	US-PATENT-APPL-SN-878539
				US-PATENT-CLASS-204-299R	US-PATENT-APPL-SN-935827	US-PATENT-CLASS-219-85CA
				US-PATENT-CLASS-424-12	US-PATENT-CLASS-220-423	US-PATENT-CLASS-219-85CM
				US-PATENT-4,181,589	US-PATENT-CLASS-220-445	US-PATENT-CLASS-219-85R
N80-16725*	c 52			NASA-CASE-NPO-14092-1	US-PATENT-CLASS-220-901	US-PATENT-CLASS-338-2
				US-PATENT-APPL-SN-807597	US-PATENT-4,184,609	US-PATENT-4,195,279
				US-PATENT-CLASS-128-DIG.9	NASA-CASE-NPO-12131-3	NASA-CASE-NPO-14093-1
				US-PATENT-CLASS-128-348	US-PATENT-APPL-SN-096255	US-PATENT-APPL-SN-880729
				US-PATENT-CLASS-128-6	NASA-CASE-LAR-12344-1	US-PATENT-CLASS-356-346
				US-PATENT-CLASS-138-103	US-PATENT-APPL-SN-945041	US-PATENT-4,193,693
				US-PATENT-CLASS-138-133	US-PATENT-CLASS-343-18B	NASA-CASE-NPO-14237-1
				US-PATENT-CLASS-138-33	US-PATENT-CLASS-343-18D	US-PATENT-APPL-SN-897831
				US-PATENT-CLASS-219-201	US-PATENT-CLASS-343-5CM	US-PATENT-CLASS-126-263
				US-PATENT-CLASS-219-522	US-PATENT-CLASS-343-5W	US-PATENT-CLASS-149-15
				US-PATENT-4,176,662	US-PATENT-4,184,155	US-PATENT-CLASS-149-37
N80-18036*	c 06			NASA-CASE-FRC-11009-1	NASA-CASE-NPO-14303-1	US-PATENT-CLASS-220-429
				US-PATENT-APPL-SN-910708	NASA-CASE-NPO-14305-1	US-PATENT-4,193,388
				US-PATENT-CLASS-340-177VA	US-PATENT-APPL-SN-928133	NASA-CASE-LAR-12205-1
					US-PATENT-CLASS-156-104	US-PATENT-APPL-SN-900843

			US-PATENT-CLASS-126-419				US-PATENT-APPL-SN-848419				US-PATENT-APPL-SN-956529
			US-PATENT-CLASS-126-434				US-PATENT-CLASS-73-12				US-PATENT-CLASS-250-338
			US-PATENT-CLASS-126-437				US-PATENT-CLASS-73-82				US-PATENT-CLASS-250-352
			US-PATENT-CLASS-165-32				US-PATENT-4,195,512				US-PATENT-CLASS-250-353
			US-PATENT-4,192,290				NASA-CASE-FRC-11012-1				US-PATENT-CLASS-356-328
N80-21138*	c 74		NASA-CASE-LAR-12178-1	N80-23969*	c 52		US-PATENT-APPL-SN-928137	N80-26658*	c 37		US-PATENT-4,205,229
			US-PATENT-APPL-SN-953390				US-PATENT-CLASS-128-666				NASA-CASE-LEW-12131-2
			US-PATENT-CLASS-350-25				US-PATENT-CLASS-128-690				US-PATENT-APPL-SN-801290
			US-PATENT-CLASS-350-285				US-PATENT-4,198,988				US-PATENT-APPL-SN-931090
			US-PATENT-CLASS-356-150	N80-24149*	c 74		NASA-CASE-GSC-12348-1				US-PATENT-CLASS-415-174
			US-PATENT-CLASS-356-152				US-PATENT-APPL-SN-929088				US-PATENT-CLASS-415-196
N80-21140*	c 74		US-PATENT-4,189,234				US-PATENT-CLASS-51-277				US-PATENT-4,135,851
			NASA-CASE-GSC-12357-1				US-PATENT-CLASS-51-283R	N80-27067*	c 51		US-PATENT-4,207,024
			US-PATENT-APPL-SN-943089				US-PATENT-CLASS-65-61				NASA-CASE-MS-16777-1
			US-PATENT-CLASS-250-277CH	N80-24437*	c 27		US-PATENT-4,198,788				US-PATENT-APPL-SN-893657
			US-PATENT-CLASS-250-280				NASA-CASE-LEW-13027-1				US-PATENT-CLASS-204-195B
			US-PATENT-CLASS-350-162R				US-PATENT-APPL-SN-958575				US-PATENT-CLASS-23-230B
			US-PATENT-CLASS-356-334				US-PATENT-CLASS-427-164				US-PATENT-CLASS-422-68
			US-PATENT-4,192,994				US-PATENT-CLASS-427-38				US-PATENT-CLASS-435-289
N80-21719*	c 35		NASA-CASE-GSC-12273-1				US-PATENT-CLASS-427-40				US-PATENT-CLASS-435-290
			US-PATENT-APPL-SN-897830				US-PATENT-CLASS-428-421				US-PATENT-CLASS-435-291
			US-PATENT-CLASS-244-165				US-PATENT-CLASS-428-474				US-PATENT-CLASS-435-3
			US-PATENT-CLASS-244-170				US-PATENT-4,199,650				US-PATENT-CLASS-435-311
			US-PATENT-4,193,570	N80-24438*	c 27		NASA-CASE-MS-14903-3				US-PATENT-CLASS-435-316
N80-21828*	c 44		NASA-CASE-MFS-23515-1				US-PATENT-APPL-SN-706424				US-PATENT-CLASS-435-32
			US-PATENT-APPL-SN-880726				US-PATENT-APPL-SN-907479				US-PATENT-CLASS-435-34
			US-PATENT-CLASS-415-101				US-PATENT-CLASS-260-DIG.29				US-PATENT-CLASS-435-38
			US-PATENT-CLASS-415-2				US-PATENT-CLASS-525-326				US-PATENT-CLASS-435-39
N80-23383*	c 25		US-PATENT-4,191,505				US-PATENT-CLASS-525-336				US-PATENT-4,204,037
			NASA-CASE-ARC-11154-1				US-PATENT-CLASS-525-374	N80-27072*	c 52		NASA-CASE-NPO-14212-1
			US-PATENT-APPL-SN-921626				US-PATENT-CLASS-525-375				US-PATENT-APPL-SN-838308
			US-PATENT-CLASS-521-146				US-PATENT-CLASS-526-261				US-PATENT-CLASS-128-642
			US-PATENT-CLASS-521-55				US-PATENT-CLASS-526-275				US-PATENT-CLASS-128-774
			US-PATENT-CLASS-521-918				US-PATENT-CLASS-526-276				US-PATENT-CLASS-128-782
			US-PATENT-CLASS-525-4				US-PATENT-CLASS-526-278				US-PATENT-CLASS-33-125R
			US-PATENT-CLASS-55-66				US-PATENT-CLASS-528-481				US-PATENT-CLASS-338-2
			US-PATENT-CLASS-55-67				US-PATENT-4,200,721				US-PATENT-CLASS-73-781
			US-PATENT-CLASS-55-68				NASA-CASE-NPO-14524-1	N80-27163*	c 72		NASA-CASE-NPO-14324-1
			US-PATENT-CLASS-55-72	N80-24510*	c 32		NASA-CASE-NPO-14527-1				US-PATENT-APPL-SN-940970
			US-PATENT-4,198,792				US-PATENT-APPL-SN-957452				US-PATENT-CLASS-250-427
N80-23419*	c 26		NASA-CASE-MFS-23816-1				US-PATENT-CLASS-350-294				US-PATENT-CLASS-313-156
			US-PATENT-APPL-SN-974292				US-PATENT-CLASS-350-6.5				US-PATENT-CLASS-313-362
			US-PATENT-CLASS-148-32				US-PATENT-CLASS-350-6.6				US-PATENT-CLASS-313-363
			US-PATENT-CLASS-75-135				US-PATENT-CLASS-356-28.5				US-PATENT-4,206,383
			US-PATENT-CLASS-75-138				US-PATENT-4,201,468	N80-27185*	c 74		NASA-CASE-LAR-12251-1
			US-PATENT-CLASS-75-178R				NASA-CASE-LEW-12441-2				US-PATENT-APPL-SN-953389
			US-PATENT-4,198,232	N80-24573*	c 34		US-PATENT-APPL-SN-559846				US-PATENT-CLASS-350-175E
N80-23452*	c 27		NASA-CASE-ARC-10980-1				US-PATENT-APPL-SN-856462				US-PATENT-CLASS-350-226
			US-PATENT-APPL-SN-694407				US-PATENT-CLASS-239-127.1				US-PATENT-4,206,970
			US-PATENT-CLASS-204-171				US-PATENT-CLASS-60-267	N80-28300*	c 02		NASA-CASE-FRC-11024-1
			US-PATENT-CLASS-210-23H				US-PATENT-4,199,937				US-PATENT-APPL-SN-015983
			US-PATENT-CLASS-210-500M				NASA-CASE-NPO-14635-1				US-PATENT-CLASS-73-180
			US-PATENT-CLASS-427-245	N80-24741*	c 44		US-PATENT-APPL-SN-008212				US-PATENT-CLASS-73-182
			US-PATENT-CLASS-427-41				US-PATENT-CLASS-136-89SG				US-PATENT-CLASS-73-861.65
			US-PATENT-4,199,448				US-PATENT-CLASS-156-DIG.64				US-PATENT-CLASS-73-861.66
N80-23471*	c 28		NASA-CASE-NPO-14109-1				US-PATENT-CLASS-156-605				US-PATENT-4,212,199
			US-PATENT-APPL-SN-946990				US-PATENT-CLASS-156-617SP	N80-28492*	c 26		NASA-CASE-LAR-11821-1
			US-PATENT-CLASS-149-108.4				US-PATENT-CLASS-252-62.3E				US-PATENT-APPL-SN-023501
			US-PATENT-CLASS-23-300				US-PATENT-4,210,622				US-PATENT-CLASS-148-131
			US-PATENT-CLASS-23-302A				NASA-CASE-NPO-14558-1				US-PATENT-CLASS-266-119
			US-PATENT-CLASS-23-302R	N80-24906*	c 46		US-PATENT-APPL-SN-945436				US-PATENT-CLASS-266-249
			US-PATENT-CLASS-23-302T				US-PATENT-CLASS-73-155				US-PATENT-CLASS-266-274
			US-PATENT-4,198,209				US-PATENT-4,196,619				US-PATENT-4,212,690
N80-23524*	c 32		NASA-CASE-NPO-14519-1				NASA-CASE-ARC-10814-2	N80-28536*	c 28		NASA-CASE-NPO-14477-1
			US-PATENT-APPL-SN-008207				US-PATENT-APPL-SN-684045				US-PATENT-APPL-SN-951830
			US-PATENT-CLASS-343-786				US-PATENT-APPL-SN-831632				US-PATENT-CLASS-149-19.2
			US-PATENT-CLASS-343-895				US-PATENT-CLASS-60-39.06				US-PATENT-CLASS-149-19.9
			US-PATENT-4,199,764				US-PATENT-CLASS-60-733				US-PATENT-CLASS-149-20
N80-23559*	c 33		NASA-CASE-NPO-13804-1				US-PATENT-CLASS-60-746				US-PATENT-4,210,474
			US-PATENT-APPL-SN-766999				US-PATENT-4,204,402	N80-28578*	c 32		NASA-CASE-GSC-12365-1
			US-PATENT-CLASS-310-319				NASA-CASE-MFS-23626-1				US-PATENT-APPL-SN-039031
			US-PATENT-CLASS-331-65				US-PATENT-APPL-SN-941711				US-PATENT-CLASS-343-1005A
			US-PATENT-CLASS-340-602				US-PATENT-CLASS-156-212				US-PATENT-CLASS-343-844
			US-PATENT-CLASS-340-604				US-PATENT-CLASS-156-213				US-PATENT-CLASS-343-854
			US-PATENT-4,197,530				US-PATENT-CLASS-156-285				US-PATENT-4,213,131
N80-23653*	c 37		NASA-CASE-MS-16938-1				US-PATENT-CLASS-260-17.2	N80-28686*	c 35		NASA-CASE-LAR-11370-1
			US-PATENT-APPL-SN-938582				US-PATENT-CLASS-264-118				US-PATENT-APPL-SN-940689
			US-PATENT-CLASS-151-41.76				US-PATENT-CLASS-264-119				US-PATENT-CLASS-250-457
			US-PATENT-4,193,435				US-PATENT-CLASS-264-124				US-PATENT-CLASS-250-491
N80-23654*	c 37		NASA-CASE-NPO-14473-1				US-PATENT-4,204,899				US-PATENT-CLASS-250-513
			US-PATENT-APPL-SN-938300				NASA-CASE-MS-16074-1				US-PATENT-4,213,051
			US-PATENT-CLASS-137-375	N80-26446*	c 27		US-PATENT-APPL-SN-747674				NASA-CASE-LAR-12285-1
			US-PATENT-CLASS-137-625.4				US-PATENT-CLASS-204-159.15	N80-28687*	c 35		US-PATENT-APPL-SN-929087
			US-PATENT-CLASS-251-138				US-PATENT-CLASS-204-159.19				US-PATENT-CLASS-356-244
			US-PATENT-CLASS-251-86				US-PATENT-CLASS-324-51				US-PATENT-CLASS-356-369
			US-PATENT-4,195,666				US-PATENT-CLASS-8-DIG.12				US-PATENT-4,210,401
N80-23655*	c 37		NASA-CASE-GSC-12318-1				US-PATENT-CLASS-8-DIG.18	N80-28711*	c 37		NASA-CASE-LEW-12119-1
			US-PATENT-APPL-SN-894213				US-PATENT-CLASS-8-115.5				US-PATENT-APPL-SN-672219
			US-PATENT-CLASS-219-160				US-PATENT-4,203,723				US-PATENT-CLASS-277-153
			US-PATENT-CLASS-219-161				NASA-CASE-FRC-10113-1				US-PATENT-CLASS-277-193
			US-PATENT-CLASS-228-212				US-PATENT-APPL-SN-885066				US-PATENT-CLASS-277-224
			US-PATENT-CLASS-228-222				US-PATENT-CLASS-324-51				US-PATENT-4,212,477
			US-PATENT-CLASS-228-44.1R				US-PATENT-4,204,154	N80-29539*	c 32		NASA-CASE-LAR-11745-1
			US-PATENT-CLASS-269-287				NASA-CASE-NPO-14372-1				US-PATENT-APPL-SN-799025
			US-PATENT-4,196,840	N80-26635*	c 35		US-PATENT-APPL-SN-646333				US-PATENT-CLASS-343-786
N80-23711*	c 43		NASA-CASE-MFS-23720-1								

		US-PATENT-4,089,004			US-PATENT-APPL-SN-938293			US-PATENT-CLASS-260-898
N80-29583* #	c 33	NASA-CASE-FRC-11055-1			US-PATENT-CLASS-333-12			US-PATENT-CLASS-260-901
		US-PATENT-APPL-SN-172098			US-PATENT-CLASS-333-252			US-PATENT-CLASS-521-27
N80-29703*	c 37	NASA-CASE-NPO-14406-1			US-PATENT-CLASS-333-99S			US-PATENT-CLASS-521-32
		US-PATENT-APPL-SN-951828			US-PATENT-4,215,327			US-PATENT-CLASS-521-62
		US-PATENT-CLASS-125-21	N80-32650*	c 33	NASA-CASE-NPO-14424-1			US-PATENT-4,119,581
		US-PATENT-CLASS-83-820			NASA-CASE-NPO-14430-1	N81-14077*	c 27	NASA-CASE-MSC-12631-3
		US-PATENT-4,191,159			US-PATENT-APPL-SN-918534			US-PATENT-APPL-SN-006952
N80-29834*	c 44	NASA-CASE-LAR-11551-1			US-PATENT-CLASS-324-62			US-PATENT-APPL-SN-568541
		US-PATENT-APPL-SN-883090			US-PATENT-CLASS-324-64			US-PATENT-APPL-SN-785279
		US-PATENT-CLASS-290-53			US-PATENT-4,218,650			US-PATENT-CLASS-156-154
		US-PATENT-CLASS-310-30	N80-32716*	c 37	NASA-CASE-MFS-23777-1			US-PATENT-CLASS-156-160
		US-PATENT-4,191,893			US-PATENT-APPL-SN-931217			US-PATENT-CLASS-156-163
N80-29835*	c 44	NASA-CASE-NPO-13786-1			US-PATENT-CLASS-318-15			US-PATENT-CLASS-156-212
		US-PATENT-APPL-SN-696374			US-PATENT-CLASS-74-425			US-PATENT-CLASS-156-267
		US-PATENT-CLASS-148-1.5			US-PATENT-CLASS-74-661			US-PATENT-CLASS-156-295
		US-PATENT-CLASS-357-30			US-PATENT-CLASS-74-665C			US-PATENT-CLASS-156-323
		US-PATENT-CLASS-357-52			US-PATENT-4,215,592			US-PATENT-CLASS-156-331
		US-PATENT-CLASS-357-91	N80-32717*	c 37	NASA-CASE-GSC-12289-1			US-PATENT-4,032,089
		US-PATENT-4,090,213			US-PATENT-APPL-SN-943086			US-PATENT-4,225,372
N80-31790*	c 37	NASA-CASE-LEW-12274-1			US-PATENT-CLASS-198-847	N81-14078*	c 27	NASA-CASE-LAR-12054-2
		US-PATENT-APPL-SN-950876			US-PATENT-CLASS-198-848			US-PATENT-APPL-SN-011737
		US-PATENT-CLASS-417-383			US-PATENT-CLASS-474-205			US-PATENT-APPL-SN-839963
		US-PATENT-CLASS-60-520			US-PATENT-4,215,590			US-PATENT-CLASS-264-137
		US-PATENT-4,215,548	N80-33081* #	c 52	NASA-CASE-ARC-11258-1			US-PATENT-CLASS-427-385.5
N80-32244*	c 76	NASA-CASE-NPO-14298-1			US-PATENT-APPL-SN-185865			US-PATENT-CLASS-427-429
		US-PATENT-APPL-SN-938579	N80-33186*	c 72	NASA-CASE-LEW-12940-1			US-PATENT-CLASS-428-473.5
		US-PATENT-CLASS-156-DIG.96			US-PATENT-APPL-SN-953391			US-PATENT-4,166,170
		US-PATENT-CLASS-422-246			US-PATENT-CLASS-313-231.4			US-PATENT-4,233,258
		US-PATENT-4,216,186			US-PATENT-CLASS-313-362	N81-14103*	c 28	NASA-CASE-LEW-12081-3
N80-32245*	c 76	NASA-CASE-NPO-14295-1			US-PATENT-4,218,633			US-PATENT-APPL-SN-009887
		US-PATENT-APPL-SN-901055	N80-33210*	c 74	NASA-CASE-MSC-18255-1			US-PATENT-APPL-SN-676432
		US-PATENT-CLASS-156-DIG.64			US-PATENT-APPL-SN-025163			US-PATENT-APPL-SN-837794
		US-PATENT-CLASS-156-DIG.88			US-PATENT-CLASS-250-347			US-PATENT-CLASS-149-1
		US-PATENT-CLASS-156-601			US-PATENT-CLASS-250-352			US-PATENT-CLASS-156-344
		US-PATENT-CLASS-156-617SP			US-PATENT-CLASS-250-353			US-PATENT-CLASS-423-648R
		US-PATENT-4,217,165			US-PATENT-CLASS-350-55			US-PATENT-CLASS-44-7R
N80-32359*	c 04	NASA-CASE-NPO-14173-1			US-PATENT-CLASS-356-72			US-PATENT-CLASS-55-2
		US-PATENT-APPL-SN-938581			US-PATENT-4,215,273			US-PATENT-CLASS-62-12
		US-PATENT-CLASS-343-112R	N80-33482*	c 24	NASA-CASE-LEW-11930-3			US-PATENT-CLASS-62-18
		US-PATENT-4,215,345			US-PATENT-APPL-SN-513611			US-PATENT-CLASS-62-40
N80-32392*	c 07	NASA-CASE-ARC-10977-1			US-PATENT-APPL-SN-616528			US-PATENT-CLASS-62-47
		US-PATENT-APPL-SN-023436			US-PATENT-APPL-SN-764245			US-PATENT-4,077,788
		US-PATENT-CLASS-239-127.3			US-PATENT-CLASS-75-200			US-PATENT-4,193,827
		US-PATENT-CLASS-239-265.33			US-PATENT-CLASS-75-222			US-PATENT-4,229,196
		US-PATENT-CLASS-60-264			US-PATENT-4,214,905	N81-14137*	c 31	NASA-CASE-KSC-11064-1
		US-PATENT-4,214,703	N81-12330* #	c 33	NASA-CASE-MFS-25535-1			US-PATENT-APPL-SN-897840
N80-32484*	c 26	NASA-CASE-LEW-12542-3			US-PATENT-APPL-SN-199765			US-PATENT-CLASS-169-62
		US-PATENT-APPL-SN-007083	N81-12542*	c 44	NASA-CASE-LEW-12806-2			US-PATENT-CLASS-169-70
		US-PATENT-APPL-SN-803822			US-PATENT-APPL-SN-065676			US-PATENT-4,219,084
		US-PATENT-CLASS-75-124			US-PATENT-APPL-SN-915050	N81-14185*	c 32	NASA-CASE-NPO-14536-1
		US-PATENT-4,214,902			US-PATENT-CLASS-136-249			US-PATENT-APPL-SN-974471
N80-32514*	c 27	NASA-CASE-NPO-13137-1			US-PATENT-CLASS-136-291			US-PATENT-CLASS-343-100TD
		US-PATENT-APPL-SN-332123			US-PATENT-CLASS-363-147			US-PATENT-4,233,606
		US-PATENT-APPL-SN-374810			US-PATENT-CLASS-363-27	N81-14186*	c 32	NASA-CASE-NPO-14749-1
		US-PATENT-CLASS-568-852			US-PATENT-CLASS-363-60			US-PATENT-APPL-SN-078521
		US-PATENT-CLASS-568-861			US-PATENT-4,217,633			US-PATENT-CLASS-375-107
		US-PATENT-4,118,427	N81-13999*	c 24	NASA-CASE-ARC-11174-1			US-PATENT-CLASS-455-51
N80-32515*	c 27	NASA-CASE-NPO-13899-1			US-PATENT-APPL-SN-929086			US-PATENT-CLASS-455-619
		US-PATENT-APPL-SN-761252			US-PATENT-CLASS-260-17.2			US-PATENT-CLASS-455-71
		US-PATENT-APPL-SN-933186			US-PATENT-CLASS-428-114	N81-14187*	c 32	US-PATENT-4,234,971
		US-PATENT-CLASS-260-346.3			US-PATENT-CLASS-428-528			NASA-CASE-MSC-16800-1
		US-PATENT-4,196,129			US-PATENT-CLASS-428-541			US-PATENT-APPL-SN-953313
N80-32516*	c 27	NASA-CASE-LEW-13103-1			US-PATENT-CLASS-428-921			US-PATENT-CLASS-343-727
		US-PATENT-APPL-SN-971596			US-PATENT-4,209,561			US-PATENT-CLASS-343-789
		US-PATENT-CLASS-156-272	N81-14000*	c 24	NASA-CASE-LAR-12065-1			US-PATENT-CLASS-343-797
		US-PATENT-CLASS-156-292			US-PATENT-APPL-SN-889671			US-PATENT-4,218,685
		US-PATENT-CLASS-204-159.14			US-PATENT-CLASS-156-330	N81-14220*	c 33	NASA-CASE-NPO-14163-1
		US-PATENT-CLASS-264-212			US-PATENT-CLASS-428-113			US-PATENT-APPL-SN-878541
		US-PATENT-CLASS-264-22			US-PATENT-CLASS-428-114			US-PATENT-CLASS-363-56
		US-PATENT-CLASS-427-44			US-PATENT-CLASS-428-140			US-PATENT-CLASS-363-71
		US-PATENT-CLASS-428-500			US-PATENT-CLASS-428-413			US-PATENT-CLASS-363-78
		US-PATENT-CLASS-429-139			US-PATENT-CLASS-428-480			US-PATENT-CLASS-363-78
		US-PATENT-4,218,280			US-PATENT-CLASS-428-902	N81-14221*	c 33	US-PATENT-4,222,098
N80-32583*	c 31	NASA-CASE-GSC-12191-1			US-PATENT-4,229,473			NASA-CASE-GSC-12411-1
		US-PATENT-APPL-SN-009886	N81-14015*	c 25	NASA-CASE-NPO-14143-1			US-PATENT-APPL-SN-965367
		US-PATENT-CLASS-165-16			US-PATENT-APPL-SN-938297			US-PATENT-CLASS-340-309.4
		US-PATENT-CLASS-236-13			US-PATENT-CLASS-250-343			US-PATENT-CLASS-340-310A
		US-PATENT-CLASS-236-44C			US-PATENT-CLASS-356-437			US-PATENT-CLASS-340-310R
		US-PATENT-CLASS-236-49			US-PATENT-4,234,258			US-PATENT-CLASS-340-870.24
		US-PATENT-4,210,278	N81-14016*	c 25	NASA-CASE-ARC-11241-1			US-PATENT-CLASS-368-47
N80-32584*	c 31	NASA-CASE-NPO-14191-1			US-PATENT-APPL-SN-037066			US-PATENT-CLASS-370-85
		US-PATENT-APPL-SN-830846			US-PATENT-CLASS-260-33.8F			US-PATENT-4,228,422
		US-PATENT-CLASS-181-102			US-PATENT-CLASS-528-362	N81-14287*	c 35	NASA-CASE-NPO-14513-1
		US-PATENT-CLASS-367-27			US-PATENT-CLASS-528-401			US-PATENT-APPL-SN-025162
		US-PATENT-CLASS-367-36			US-PATENT-CLASS-528-422			US-PATENT-CLASS-165-105
		US-PATENT-CLASS-367-57			US-PATENT-4,234,715			US-PATENT-CLASS-62-514R
		US-PATENT-4,214,226	N81-14076*	c 27	NASA-CASE-NPO-14001-1			US-PATENT-4,218,892
N80-32604*	c 32	NASA-CASE-MSC-18334-1			US-PATENT-APPL-SN-771245	N81-14317*	c 37	NASA-CASE-MSC-16973-1
		US-PATENT-APPL-SN-051270			US-PATENT-CLASS-210-24R			US-PATENT-APPL-SN-969756
		US-PATENT-CLASS-343-700MS			US-PATENT-CLASS-260-17A			US-PATENT-CLASS-150-11
		US-PATENT-CLASS-343-830			US-PATENT-CLASS-260-2.1E			US-PATENT-CLASS-156-294
		US-PATENT-4,218,682			US-PATENT-CLASS-260-858			US-PATENT-CLASS-52-232
N80-32605*	c 32	NASA-CASE-NPO-14253-1			US-PATENT-CLASS-260-886			US-PATENT-CLASS-52-743
		NASA-CASE-NPO-14640-1			US-PATENT-CLASS-260-8900	N81-14318*	c 37	US-PATENT-4,235,060
					US-PATENT-CLASS-260-895			NASA-CASE-NPO-14220-1
								US-PATENT-APPL-SN-907421

		US-PATENT-CLASS-60-518				US-PATENT-CLASS-375-1				US-PATENT-CLASS-333-204
		US-PATENT-CLASS-74-417				US-PATENT-CLASS-375-115				US-PATENT-4,227,096
		US-PATENT-4,228,656				US-PATENT-CLASS-375-58				NASA-CASE-MSC-16747-1
N81-14319*	c 37	NASA-CASE-LAR-11855-1				US-PATENT-4,221,005		N81-17349*	c 33	US-PATENT-APPL-SN-974475
		US-PATENT-APPL-SN-953314				NASA-CASE-NPO-14444-1				US-PATENT-CLASS-328-134
		US-PATENT-CLASS-407-117		N81-15192*	c 33	US-PATENT-APPL-SN-017890				US-PATENT-CLASS-328-37
		US-PATENT-CLASS-407-85				US-PATENT-CLASS-332-22				US-PATENT-CLASS-328-55
		US-PATENT-CLASS-408-1R				US-PATENT-CLASS-332-23R				US-PATENT-CLASS-331-48
		US-PATENT-CLASS-82-1.2				US-PATENT-CLASS-375-54				US-PATENT-4,241,308
		US-PATENT-CLASS-82-1C				US-PATENT-CLASS-375-67		N81-17432*	c 37	NASA-CASE-NPO-14388-1
		US-PATENT-CLASS-82-36R				US-PATENT-CLASS-455-102				US-PATENT-APPL-SN-008208
		US-PATENT-4,218,941				US-PATENT-4,216,542				US-PATENT-CLASS-60-518
N81-14320*	c 37	NASA-CASE-GSC-12429-1		N81-15363*	c 37	NASA-CASE-MSC-18134-1				US-PATENT-CLASS-74-417
		US-PATENT-APPL-SN-009888				US-PATENT-APPL-SN-974472				US-PATENT-4,240,256
		US-PATENT-CLASS-244-161				US-PATENT-CLASS-277-181		N81-17433*	c 37	NASA-CASE-ARC-11251-1
		US-PATENT-CLASS-294-106				US-PATENT-CLASS-277-229				US-PATENT-APPL-SN-057465
		US-PATENT-CLASS-414-1				US-PATENT-4,219,203				US-PATENT-CLASS-128-DIG.20
		US-PATENT-4,219,171		N81-15364*	c 37	NASA-CASE-NPO-14170-1				US-PATENT-CLASS-137-549
N81-14389*	c 44	NASA-CASE-NPO-14416-1				US-PATENT-APPL-SN-860404				US-PATENT-CLASS-137-886
		US-PATENT-APPL-SN-014664				US-PATENT-CLASS-188-134				US-PATENT-CLASS-137-887
		US-PATENT-CLASS-29-DIG.1				US-PATENT-CLASS-188-180				US-PATENT-CLASS-251-216
		US-PATENT-CLASS-29-832				US-PATENT-CLASS-188-184				US-PATENT-CLASS-251-339
		US-PATENT-4,219,926				US-PATENT-CLASS-244-173				US-PATENT-4,239,057
N81-14605*	c 51	NASA-CASE-ARC-11114-1		N81-15706*	c 60	US-PATENT-4,219,107		N81-17499*	c 43	NASA-CASE-FRC-11013-1
		US-PATENT-APPL-SN-951422				NASA-CASE-NPO-14162-1				US-PATENT-APPL-SN-043912
		US-PATENT-CLASS-128-DIG.12				NASA-CASE-NPO-14167-1				US-PATENT-CLASS-244-160
		US-PATENT-CLASS-128-DIG.16				NASA-CASE-NPO-14169-1				US-PATENT-CLASS-244-49
		US-PATENT-CLASS-128-DIG.26				US-PATENT-APPL-SN-893903				US-PATENT-4,240,601
		US-PATENT-CLASS-128-DIG.6				US-PATENT-CLASS-307-219		N81-17518*	c 44	NASA-CASE-NPO-14619-1
		US-PATENT-CLASS-128-DIG.9				US-PATENT-CLASS-307-225R				US-PATENT-APPL-SN-027559
		US-PATENT-CLASS-128-204.18				US-PATENT-CLASS-307-269				US-PATENT-CLASS-126-419
		US-PATENT-CLASS-128-207.14				US-PATENT-CLASS-307-291				US-PATENT-CLASS-60-524
		US-PATENT-CLASS-128-207.28				US-PATENT-CLASS-328-192				US-PATENT-CLASS-60-641
		US-PATENT-CLASS-128-236				US-PATENT-CLASS-328-48				US-PATENT-4,236,383
		US-PATENT-4,212,297				US-PATENT-CLASS-328-71		N81-17886*	c 74	NASA-CASE-NPO-14219-1
N81-14612*	c 52	NASA-CASE-ARC-11117-1		N81-15767*	c 71	US-PATENT-4,213,064				US-PATENT-APPL-SN-888432
		US-PATENT-APPL-SN-003693				NASA-CASE-MFS-25050-1				US-PATENT-CLASS-350-301
		US-PATENT-CLASS-128-642				US-PATENT-APPL-SN-057466				US-PATENT-CLASS-354-118
		US-PATENT-4,219,027				US-PATENT-CLASS-308-10				US-PATENT-CLASS-362-11
N81-14613*	c 52	NASA-CASE-ARC-11118-2				US-PATENT-CLASS-73-505				US-PATENT-CLASS-362-241
		US-PATENT-APPL-SN-850504				US-PATENT-4,218,921				US-PATENT-4,213,684
		US-PATENT-APPL-SN-974476		N81-16209* #	c 26	NASA-CASE-LEW-23169-2		N81-17887*	c 74	NASA-CASE-NPO-14657-1
		US-PATENT-CLASS-424-274				US-PATENT-APPL-SN-191746				US-PATENT-APPL-SN-008211
		US-PATENT-4,230,717		N81-17057*	c 06	NASA-CASE-FRC-11029-1				US-PATENT-CLASS-356-432
N81-14968*	c 02	NASA-CASE-LAR-12326-1				US-PATENT-APPL-SN-164617				US-PATENT-CLASS-73-15R
		US-PATENT-APPL-SN-019541				US-PATENT-CLASS-73-147				US-PATENT-4,243,327
		US-PATENT-CLASS-102-56R				US-PATENT-CLASS-73-178R		N81-17888*	c 74	NASA-CASE-NPO-14502-1
		US-PATENT-CLASS-102-92.1				US-PATENT-4,240,290				US-PATENT-APPL-SN-965368
		US-PATENT-CLASS-244-119		N81-17170*	c 24	NASA-CASE-LEW-12493-1				US-PATENT-CLASS-356-345
		US-PATENT-CLASS-244-130				US-PATENT-APPL-SN-893857				US-PATENT-CLASS-356-352
		US-PATENT-4,225,102				US-PATENT-CLASS-156-292				US-PATENT-CLASS-356-358
N81-14999*	c 07	NASA-CASE-LEW-13201-1				US-PATENT-CLASS-228-118				US-PATENT-4,243,323
		US-PATENT-APPL-SN-038980				US-PATENT-CLASS-228-170		N81-19087*	c 05	NASA-CASE-LAR-11797-1
		US-PATENT-CLASS-137-15.1				US-PATENT-CLASS-228-174				US-PATENT-APPL-SN-969755
		US-PATENT-CLASS-181-214				US-PATENT-CLASS-228-190				US-PATENT-CLASS-244-17.25
		US-PATENT-4,220,171				US-PATENT-4,211,354				US-PATENT-CLASS-416-114
N81-15104*	c 27	NASA-CASE-NPO-10830-1		N81-17187*	c 25	NASA-CASE-NPO-13530-1				US-PATENT-CLASS-416-500
		US-PATENT-APPL-SN-825489				US-PATENT-CLASS-210-500M				US-PATENT-CLASS-74-519
		US-PATENT-CLASS-117-6				US-PATENT-CLASS-260-2.1				US-PATENT-4,245,956
		US-PATENT-CLASS-138.8R				US-PATENT-CLASS-260-2.2R		N81-19115*	c 07	NASA-CASE-LEW-12907-2
		US-PATENT-CLASS-260-33.6UB				US-PATENT-4,014,798				US-PATENT-APPL-SN-752050
		US-PATENT-CLASS-33.8UB				NASA-CASE-ARC-11248-1				US-PATENT-APPL-SN-909235
		US-PATENT-CLASS-37N		N81-17259*	c 27	US-PATENT-APPL-SN-028300				US-PATENT-CLASS-364-106
		US-PATENT-CLASS-41R				US-PATENT-CLASS-528-362				US-PATENT-CLASS-364-431
		US-PATENT-CLASS-77.5AQ				US-PATENT-CLASS-528-401				US-PATENT-CLASS-60-39.24
		US-PATENT-CLASS-77.5CH				US-PATENT-CLASS-528-422				US-PATENT-4,249,238
		US-PATENT-CLASS-859R				US-PATENT-CLASS-528-423		N81-19116*	c 07	NASA-CASE-LEW-12594-1
		US-PATENT-CLASS-94.9N				US-PATENT-4,242,498				US-PATENT-APPL-SN-741056
		US-PATENT-3,655,814		N81-17260*	c 27	NASA-CASE-LEW-13226-1				US-PATENT-APPL-SN-909608
N81-15119*	c 28	NASA-CASE-NPO-14110-1				US-PATENT-APPL-SN-070771				US-PATENT-CLASS-60-226R
		US-PATENT-APPL-SN-947000				US-PATENT-CLASS-260-326N				US-PATENT-CLASS-60-236
		US-PATENT-CLASS-149-108.4				US-PATENT-CLASS-260-326S				US-PATENT-CLASS-60-238
		US-PATENT-CLASS-23-293R				US-PATENT-CLASS-260-37EP				US-PATENT-CLASS-60-239
		US-PATENT-CLASS-252-364				US-PATENT-CLASS-528-118				US-PATENT-4,242,864
		US-PATENT-CLASS-260-96D				US-PATENT-CLASS-528-322		N81-19130*	c 08	NASA-CASE-LAR-11970-2
		US-PATENT-CLASS-423-1				US-PATENT-CLASS-538-117				US-PATENT-APPL-SN-034104
		US-PATENT-CLASS-423-131				US-PATENT-4,244,857				US-PATENT-APPL-SN-727503
		US-PATENT-CLASS-423-658.5		N81-17261*	c 27	NASA-CASE-NPO-14315-1				US-PATENT-CLASS-244-12.5
		US-PATENT-CLASS-525-384				US-PATENT-APPL-SN-900659				US-PATENT-CLASS-244-52
		US-PATENT-CLASS-526-914				US-PATENT-CLASS-201-10				US-PATENT-CLASS-244-87
		US-PATENT-CLASS-75-25				US-PATENT-CLASS-201-25				US-PATENT-4,236,684
		US-PATENT-4,229,182				US-PATENT-CLASS-201-8		N81-19242*	c 25	NASA-CASE-MFS-25000-1
N81-15154*	c 31	NASA-CASE-NPO-13758-2				US-PATENT-CLASS-44-50				US-PATENT-APPL-SN-974474
		US-PATENT-APPL-SN-623389				US-PATENT-CLASS-44-62				US-PATENT-CLASS-260-29.6RB
		US-PATENT-APPL-SN-727444				US-PATENT-4,246,001				US-PATENT-CLASS-526-201
		US-PATENT-CLASS-110-218		N81-17262*	c 27	NASA-CASE-ARC-11253-1				US-PATENT-CLASS-526-88
		US-PATENT-CLASS-110-229				US-PATENT-APPL-SN-028301				US-PATENT-4,247,434
		US-PATENT-CLASS-110-232				US-PATENT-CLASS-528-310		N81-19244*	c 25	NASA-CASE-NPO-13309-1
		US-PATENT-CLASS-110-343				US-PATENT-CLASS-528-362				US-PATENT-APPL-SN-363130
		US-PATENT-CLASS-110-347				US-PATENT-CLASS-528-401				US-PATENT-CLASS-210-24
		US-PATENT-CLASS-202-118				US-PATENT-CLASS-528-422				US-PATENT-CLASS-260-2.1E
		US-PATENT-CLASS-264-23				US-PATENT-4,245,085				US-PATENT-CLASS-260-2.2R
		US-PATENT-CLASS-425-378R		N81-17348*	c 33	NASA-CASE-MFS-23845-1				US-PATENT-CLASS-264-41
		US-PATENT-4,206,713				US-PATENT-APPL-SN-938298				US-PATENT-3,944,485
N81-15179*	c 32	NASA-CASE-MSC-18035-1				US-PATENT-CLASS-307-233R		N81-19296*	c 27	NASA-CASE-LEW-12933-1
		US-PATENT-APPL-SN-041142				US-PATENT-CLASS-307-306				US-PATENT-APPL-SN-027557

		US-PATENT-CLASS-260-33.4R	N81-22360* #	c 37	NASA-CASE-LEW-12445-1	US-PATENT-CLASS-422-3
		US-PATENT-CLASS-427-221			US-PATENT-APPL-SN-238887	US-PATENT-CLASS-422-30
		US-PATENT-CLASS-427-379	N81-24106*	c 08	NASA-CASE-LAR-12268-1	US-PATENT-CLASS-422-34
		US-PATENT-CLASS-528-353			US-PATENT-APPL-SN-015996	US-PATENT-4,250,143
N81-19343*	c 31	US-PATENT-4,244,853			US-PATENT-CLASS-244-181	N81-24779* c 62 NASA-CASE-KSC-11048-1
		NASA-CASE-GSC-12513-1			US-PATENT-CLASS-244-195	US-PATENT-APPL-SN-023437
		US-PATENT-APPL-SN-053571			US-PATENT-CLASS-318-584	US-PATENT-CLASS-364-200
		US-PATENT-CLASS-109-49.5			US-PATENT-CLASS-364-434	US-PATENT-4,254,464
		US-PATENT-CLASS-109-58.5	N81-24256*	c 27	US-PATENT-4,261,537	N81-24900* c 74 NASA-CASE-GSC-12528-1
		US-PATENT-CLASS-220-82R			NASA-CASE-ARC-11253-3	US-PATENT-APPL-SN-111439
		US-PATENT-CLASS-220-89A			US-PATENT-APPL-SN-028301	US-PATENT-CLASS-250-368
		US-PATENT-CLASS-49-171			US-PATENT-APPL-SN-145283	US-PATENT-CLASS-250-483
		US-PATENT-4,245,566			US-PATENT-CLASS-260-465.5R	US-PATENT-4,262,206
N81-19389*	c 33	NASA-CASE-NPO-14297-1			US-PATENT-CLASS-528-310	N81-25159* c 25 NASA-CASE-NPO-15102-1
		US-PATENT-APPL-SN-938299			US-PATENT-CLASS-564-229	US-PATENT-APPL-SN-154726
		US-PATENT-CLASS-156-DIG.96			US-PATENT-4,269,787	US-PATENT-CLASS-250-350
		US-PATENT-CLASS-156-608	N81-24257*	c 27	NASA-CASE-LEW-13135-2	US-PATENT-CLASS-356-432
		US-PATENT-CLASS-219-10.49R			US-PATENT-APPL-SN-113014	US-PATENT-4,253,769
		US-PATENT-CLASS-219-10.67			US-PATENT-APPL-SN-971475	N81-25188* c 26 NASA-CASE-LEW-13088-1
		US-PATENT-CLASS-422-246			US-PATENT-CLASS-264-104	US-PATENT-APPL-SN-089779
		US-PATENT-CLASS-422-249			US-PATENT-CLASS-264-105	US-PATENT-CLASS-428-471
		US-PATENT-CLASS-432-264			US-PATENT-CLASS-429-139	US-PATENT-CLASS-428-632
		US-PATENT-4,242,553			US-PATENT-CLASS-429-249	US-PATENT-CLASS-428-678
N81-19392*	c 33	NASA-CASE-GSC-12360-1			US-PATENT-CLASS-429-253	US-PATENT-CLASS-428-679
		US-PATENT-APPL-SN-041164			US-PATENT-CLASS-429-27	US-PATENT-CLASS-428-680
		US-PATENT-CLASS-363-101			US-PATENT-CI ASS-429.2R	US-PATENT-4,255,485
		US-PATENT-CLASS-363-21			US-PATENT-CLASS-525-61	N81-25209* c 27 NASA-CASE-MSC-18107-1
		US-PATENT-4,245,286			US-PATENT-4,262,067	US-PATENT-APPL-SN-956168
N81-19393*	c 33	NASA-CASE-NPO-14505-1	N81-24258*	c 27	NASA-CASE-NPO-10424-1	US-PATENT-CLASS-430-271
		US-PATENT-APPL-SN-956166			US-PATENT-APPL-SN-692636	US-PATENT-CLASS-430-325
		US-PATENT-CLASS-363-21			US-PATENT-CLASS-260-37	US-PATENT-CLASS-430-329
		US-PATENT-CLASS-363-36			US-PATENT-3,651,008	US-PATENT-CLASS-430-330
		US-PATENT-CLASS-363-40	N81-24280*	c 28	NASA-CASE-MSC-16394-1	US-PATENT-4,262,080
		US-PATENT-CLASS-363-47			US-PATENT-APPL-SN-161255	N81-25258* c 31 NASA-CASE-LAR-12095-1
		US-PATENT-4,245,288			US-PATENT-CLASS-204-129	US-PATENT-APPL-SN-811401
N81-19426*	c 35	NASA-CASE-MFS-23923-1			US-PATENT-CLASS-204-252	US-PATENT-CLASS-244-158R
		US-PATENT-APPL-SN-053569			US-PATENT-CLASS-204-266	US-PATENT-CLASS-403-171
		US-PATENT-CLASS-73-190R			US-PATENT-CLASS-204-290F	US-PATENT-CLASS-428-902
		US-PATENT-4,248,083			US-PATENT-CLASS-204-290R	US-PATENT-CLASS-52-309.1
N81-19427*	c 35	NASA-CASE-MSC-16370-1			US-PATENT-CLASS-204-291	US-PATENT-CLASS-52-648
		US-PATENT-APPL-SN-061556			US-PATENT-4,263,112	US-PATENT-CLASS-52-726
		US-PATENT-CLASS-329-107	N81-24338*	c 33	NASA-CASE-NPO-14617-1	US-PATENT-4,259,821
		US-PATENT-CLASS-329-50			US-PATENT-APPL-SN-051269	N81-25259* c 31 NASA-CASE-LAR-12077-1
		US-PATENT-CLASS-375-1			US-PATENT-CLASS-330-8	US-PATENT-APPL-SN-014663
		US-PATENT-CLASS-375-104			US-PATENT-4,262,259	US-PATENT-CLASS-52-645
		US-PATENT-CLASS-375-34	N81-24422*	c 36	NASA-CASE-LAR-12177-1	US-PATENT-4,259,825
		US-PATENT-CLASS-375-99			US-PATENT-APPL-SN-027558	N81-25278* c 32 NASA-CASE-NPO-14588-1
		US-PATENT-4,241,312			US-PATENT-CLASS-356-28.5	US-PATENT-APPL-SN-008209
N81-19455*	c 37	NASA-CASE-LEW-12982-1			US-PATENT-CLASS-356-356	US-PATENT-CLASS-343-755
		US-PATENT-APPL-SN-929084			US-PATENT-CLASS-356-358	US-PATENT-CLASS-343-772
		US-PATENT-CLASS-204-192E			US-PATENT-4,255,048	US-PATENT-CLASS-343-781R
		US-PATENT-CLASS-228-116	N81-24442*	c 37	NASA-CASE-LEW-12991-1	US-PATENT-CLASS-343-786
		US-PATENT-CLASS-228-205			US-PATENT-APPL-SN-961832	US-PATENT-4,258,366
		US-PATENT-4,245,768			US-PATENT-CLASS-277-96	N81-25299* c 33 NASA-CASE-GSC-12399-1
N81-19558*	c 44	NASA-CASE-NPO-14670-1			US-PATENT-4,260,166	US-PATENT-APPL-SN-961831
		US-PATENT-APPL-SN-043941	N81-24443*	c 37	NASA-CASE-LAR-11695-2	US-PATENT-CLASS-70-58
		US-PATENT-CLASS-136-258			US-PATENT-APPL-SN-103836	US-PATENT-4,252,007
		US-PATENT-CLASS-252-62.3E			US-PATENT-APPL-SN-893865	N81-25370* c 37 NASA-CASE-NPO-14221-1
		US-PATENT-CLASS-357-30			US-PATENT-CLASS-152-330RF	US-PATENT-APPL-SN-907431
		US-PATENT-CLASS-357-59			US-PATENT-CLASS-152-353G	US-PATENT-CLASS-60-517
		US-PATENT-CLASS-357-63			US-PATENT-CLASS-152-353R	US-PATENT-CLASS-60-525
		US-PATENT-4,249,957			US-PATENT-CLASS-152-379.4	US-PATENT-4,255,929
N81-19896*	c 74	NASA-CASE-NPO-11337-1			US-PATENT-CLASS-244-103R	N81-25371* c 37 NASA-CASE-NPO-13823-1
		NASA-CASE-NPO-11575-1			US-PATENT-CLASS-244-130	US-PATENT-APPL-SN-658487
		US-PATENT-APPL-SN-090584			US-PATENT-4,267,992	US-PATENT-CLASS-106-43
		US-PATENT-APPL-SN-276599	N81-24519*	c 44	NASA-CASE-LEW-12441-3	US-PATENT-CLASS-264-332
		US-PATENT-CLASS-340-146.3H			US-PATENT-APPL-SN-032307	US-PATENT-4,252,768
		US-PATENT-CLASS-340-146.3S			US-PATENT-APPL-SN-856462	N81-25400* c 39 NASA-CASE-NPO-14363-1
		US-PATENT-CLASS-340-146.3Y			US-PATENT-CLASS-239-127.1	US-PATENT-APPL-SN-969760
		US-PATENT-3,845,466			US-PATENT-CLASS-60-204	US-PATENT-CLASS-356-213
N81-19898*	c 74	NASA-CASE-NPO-12087-1			US-PATENT-CLASS-60-267	US-PATENT-CLASS-356-216
		US-PATENT-APPL-SN-095217			US-PATENT-4,199,937	US-PATENT-CLASS-356-234
		US-PATENT-CLASS-250-83.6R			US-PATENT-4,245,469	US-PATENT-CLASS-356-32
		US-PATENT-3,704,284	N81-24520*	c 44	NASA-CASE-MFS-23999-1	US-PATENT-4,252,440
N81-20352* #	c 33	NASA-CASE-NPO-13970-1			US-PATENT-APPL-SN-060435	N81-25660* c 52 NASA-CASE-MFS-23717-1
		US-PATENT-APPL-SN-023484			US-PATENT-CLASS-250-203R	US-PATENT-APPL-SN-950877
		US-PATENT-CLASS-318-138			US-PATENT-CLASS-250-209	US-PATENT-CLASS-128-DIG.25
		US-PATENT-CLASS-318-254			US-PATENT-4,262,195	US-PATENT-CLASS-128-1R
		US-PATENT-CLASS-318-439	N81-24521*	c 44	NASA-CASE-LEW-12918-1	US-PATENT-CLASS-128-346
		US-PATENT-4,249,116			US-PATENT-APPL-SN-134855	US-PATENT-CLASS-137-493
N81-20703*	c 52	NASA-CASE-NPO-14329-1			US-PATENT-CLASS-429-120	US-PATENT-4,256,093
		US-PATENT-APPL-SN-044432			US-PATENT-CLASS-429-160	N81-25661* c 52 NASA-CASE-GSC-12082-2
		US-PATENT-CLASS-128-642			US-PATENT-CLASS-429-164	US-PATENT-APPL-SN-676958
		US-PATENT-CLASS-128-774			US-PATENT-CLASS-429-94	US-PATENT-APPL-SN-798976
		US-PATENT-CLASS-73-141A			US-PATENT-4,262,064	US-PATENT-CLASS-128-80F
		US-PATENT-4,249,417	N81-24711*	c 52	NASA-CASE-MSC-16433-1	US-PATENT-4,252,111
N81-21047*	c 04	NASA-CASE-ARC-11257-1			US-PATENT-APPL-SN-910992	N81-25662* c 52 NASA-CASE-ARC-11167-1
		US-PATENT-APPL-SN-078611			US-PATENT-CLASS-128-295	US-PATENT-APPL-SN-057526
		US-PATENT-CLASS-73-178R			US-PATENT-CLASS-128-761	US-PATENT-CLASS-128-89R
		US-PATENT-CLASS-73-490			US-PATENT-CLASS-4-144.3	US-PATENT-4,261,349
		US-PATENT-CLASS-73-504			US-PATENT-4,246,901	N81-26073* # c 02 NASA-CASE-KSC-11042-2
		US-PATENT-4,244,215			NASA-CASE-KSC-11085-1	US-PATENT-APPL-SN-154663
N81-22280* #	c 33	NASA-CASE-MFS-24368-3	N81-24724*	c 54	US-PATENT-APPL-SN-046739	N81-26114* c 05 NASA-CASE-LAR-12406-1
		US-PATENT-APPL-SN-243683			US-PATENT-CLASS-261-79A	US-PATENT-APPL-SN-008210
N81-22344* #	c 36	NASA-CASE-GSC-12609-1			US-PATENT-CLASS-422-109	US-PATENT-CLASS-165-104.14
		US-PATENT-APPL-SN-218586			US-PATENT-CLASS-422-27	US-PATENT-CLASS-244-117A



				US-PATENT-CLASS-244-163				US-PATENT-CLASS-528-6				US-PATENT-APPL-SN-102002
				US-PATENT-CLASS-60-259				US-PATENT-4,276,403				US-PATENT-CLASS-364-453
				US-PATENT-CLASS-60-267	N81-27272*	c 27	.....	NASA-CASE-ARC-11321-1				US-PATENT-CLASS-364-566
				US-PATENT-CLASS-60-730				US-PATENT-APPL-SN-175452				US-PATENT-CLASS-73-178R
				US-PATENT-CLASS-62-DIG.5				US-PATENT-CLASS-428-260				US-PATENT-CLASS-73-510
				US-PATENT-4,273,304				US-PATENT-CLASS-428-367				US-PATENT-4,281,384
N81-26152*	c 08	.....		NASA-CASE-LAR-12562-1				US-PATENT-CLASS-428-408	N81-29160*	c 23	.....	NASA-CASE-LEW-13101-2
				US-PATENT-APPL-SN-015995				US-PATENT-CLASS-428-902				US-PATENT-APPL-SN-145271
				US-PATENT-CLASS-244-181				US-PATENT-CLASS-428-920				US-PATENT-APPL-SN-971473
				US-PATENT-CLASS-244-182				US-PATENT-CLASS-526-262				US-PATENT-CLASS-260-17.4UC
				US-PATENT-4,266,743				US-PATENT-CLASS-528-228				US-PATENT-CLASS-264-104
N81-26161*	c 14	.....		NASA-CASE-LAR-12250-1				US-PATENT-4,276,344				US-PATENT-CLASS-428-139
				US-PATENT-APPL-SN-010794	N81-27323*	c 31	.....	NASA-CASE-MS-16217-1				US-PATENT-CLASS-429-249
				US-PATENT-CLASS-244-160				US-PATENT-APPL-SN-893383				US-PATENT-CLASS-429-253
				US-PATENT-CLASS-244-2				US-PATENT-CLASS-52-108				US-PATENT-CLASS-429-27
				US-PATENT-CLASS-244-63				US-PATENT-CLASS-52-745				US-PATENT-CLASS-429-28
				US-PATENT-4,265,416				US-PATENT-4,237,662				US-PATENT-CLASS-525-56
N81-26179*	c 24	.....		NASA-CASE-LEW-12493-2	N81-27324*	c 31	.....	NASA-CASE-LAR-12195-1				US-PATENT-CLASS-525-61
				US-PATENT-APPL-SN-122967				US-PATENT-APPL-SN-946991				US-PATENT-4,272,470
				US-PATENT-APPL-SN-893857				US-PATENT-CLASS-182-62.5	N81-29163*	c 24	.....	NASA-CASE-MFS-23674-1
				US-PATENT-CLASS-228-118				US-PATENT-CLASS-212-267				US-PATENT-APPL-SN-912276
				US-PATENT-CLASS-228-190				US-PATENT-CLASS-52-111				US-PATENT-CLASS-156-161
				US-PATENT-4,211,354				US-PATENT-CLASS-52-632				US-PATENT-CLASS-156-165
				US-PATENT-4,267,953				US-PATENT-4,238,911				US-PATENT-CLASS-156-285
N81-26358*	c 33	.....		NASA-CASE-LAR-12196-1	N81-27341*	c 32	.....	NASA-CASE-GSC-12147-1				US-PATENT-CLASS-156-294
				US-PATENT-APPL-SN-017887				US-PATENT-APPL-SN-780873				US-PATENT-CLASS-156-74
				US-PATENT-CLASS-343-100PE				US-PATENT-CLASS-343-112R				US-PATENT-CLASS-264-229
				US-PATENT-4,264,908				US-PATENT-4,276,553				US-PATENT-CLASS-264-231
N81-26359*	c 33	.....		NASA-CASE-KSC-11065-1	N81-27395*	c 33	.....	NASA-CASE-MFS-23988-1				US-PATENT-CLASS-264-258
				US-PATENT-APPL-SN-051271				US-PATENT-APPL-SN-044431				US-PATENT-CLASS-264-259
				US-PATENT-CLASS-324-51				US-PATENT-CLASS-307-252UA				US-PATENT-CLASS-264-311
				US-PATENT-CLASS-324-73AT				US-PATENT-CLASS-318-799				US-PATENT-CLASS-74-572
				US-PATENT-CLASS-371-20				US-PATENT-CLASS-318-810				US-PATENT-4,190,626
				US-PATENT-CLASS-371-25				US-PATENT-4,266,177	N81-29229*	c 27	.....	NASA-CASE-LAR-12642-1
				US-PATENT-4,267,594	N81-27396*	c 33	.....	NASA-CASE-NPO-14426-1				US-PATENT-APPL-SN-092141
N81-26360*	c 33	.....		NASA-CASE-GSC-12515-1				US-PATENT-APPL-SN-009889				US-PATENT-CLASS-264-137
				US-PATENT-APPL-SN-172727				US-PATENT-CLASS-307-352				US-PATENT-CLASS-428-473.5
				US-PATENT-CLASS-148-1.5				US-PATENT-CLASS-307-353				US-PATENT-CLASS-528-222
				US-PATENT-CLASS-148-187				US-PATENT-CLASS-328-151				US-PATENT-CLASS-528-229
				US-PATENT-CLASS-156-647				US-PATENT-4,262,258				US-PATENT-4,281,102
				US-PATENT-CLASS-156-648	N81-27397*	c 33	.....	NASA-CASE-MS-12745-1	N81-29308*	c 32	.....	NASA-CASE-NPO-14641-1
				US-PATENT-CLASS-156-649				US-PATENT-APPL-SN-746579				US-PATENT-APPL-SN-076643
				US-PATENT-CLASS-29-571				US-PATENT-CLASS-179-78				US-PATENT-CLASS-343-100CL
				US-PATENT-CLASS-29-578				US-PATENT-CLASS-333-12				US-PATENT-CLASS-455-278
				US-PATENT-CLASS-29-580				US-PATENT-CLASS-361-56				US-PATENT-4,278,978
				US-PATENT-CLASS-357-23				US-PATENT-CLASS-361-91	N81-29342*	c 33	.....	NASA-CASE-GSC-12111-2
				US-PATENT-CLASS-357-55				US-PATENT-4,264,940				US-PATENT-APPL-SN-678813
				US-PATENT-CLASS-357-60	N81-27519*	c 37	.....	NASA-CASE-NPO-14521-1				US-PATENT-APPL-SN-830272
				US-PATENT-CLASS-357-91				US-PATENT-APPL-SN-023439				US-PATENT-CLASS-350-96.25
				US-PATENT-4,272,302				US-PATENT-CLASS-244-161				US-PATENT-CLASS-365-120
N81-26402*	c 34	.....		NASA-CASE-KSC-11076-1				US-PATENT-CLASS-294-86R				US-PATENT-4,154,501
				US-PATENT-APPL-SN-051274				US-PATENT-CLASS-318-640	N81-29407*	c 35	.....	NASA-CASE-LAR-12308-1
				US-PATENT-CLASS-364-510				US-PATENT-CLASS-356-152				US-PATENT-APPL-SN-111438
				US-PATENT-CLASS-364-571				US-PATENT-CLASS-414-730				US-PATENT-CLASS-73-683.31
				US-PATENT-CLASS-73-861				US-PATENT-4,260,187				US-PATENT-CLASS-73-684.52
				US-PATENT-4,253,156	N81-27615* #	c 44	.....	NASA-CASE-LEW-13556-1				US-PATENT-4,274,285
N81-26431*	c 35	.....		NASA-CASE-FRC-10112-1				US-PATENT-APPL-SN-272233	N81-29524*	c 44	.....	NASA-CASE-LEW-13148-2
				US-PATENT-APPL-SN-122965				US-PATENT-CLASS-14002-1				US-PATENT-APPL-SN-061555
				US-PATENT-CLASS-219-209	N81-27783*	c 52	.....	US-PATENT-APPL-SN-855364				US-PATENT-APPL-SN-964754
				US-PATENT-CLASS-219-210				US-PATENT-CLASS-128-665				US-PATENT-CLASS-204-2.1
				US-PATENT-CLASS-219-510				US-PATENT-CLASS-356-406				US-PATENT-4,192,910
				US-PATENT-CLASS-236-1F				US-PATENT-CLASS-356-407				US-PATENT-4,270,984
				US-PATENT-CLASS-361-334				US-PATENT-CLASS-356-416	N81-29525*	c 44	.....	NASA-CASE-NPO-13689-2
				US-PATENT-CLASS-73-361				US-PATENT-4,170,987				US-PATENT-APPL-SN-093714
				US-PATENT-4,264,802	N81-27806*	c 54	.....	NASA-CASE-LAR-12320-1				US-PATENT-APPL-SN-597430
N81-26447*	c 37	.....		NASA-CASE-LEW-12119-2				US-PATENT-APPL-SN-043913				US-PATENT-APPL-SN-683073
				US-PATENT-APPL-SN-102004				US-PATENT-CLASS-434-59				US-PATENT-APPL-SN-837513
				US-PATENT-APPL-SN-672219				US-PATENT-4,264,310				US-PATENT-CLASS-136-255
				US-PATENT-CLASS-277-153				US-PATENT-CLASS-14554-1				US-PATENT-CLASS-136-258
				US-PATENT-CLASS-277-193	N81-27814*	c 60	.....	US-PATENT-APPL-SN-974473				US-PATENT-CLASS-136-262
				US-PATENT-4,212,477				US-PATENT-CLASS-364-200				US-PATENT-CLASS-357-15
				US-PATENT-4,266,788				US-PATENT-CLASS-364-900				US-PATENT-CLASS-357-30
N81-26509*	c 43	.....		NASA-CASE-NPO-14140-1				US-PATENT-CLASS-370-58				US-PATENT-4,278,830
				NASA-CASE-NPO-14387-1				US-PATENT-4,264,984	N81-29763*	c 52	.....	NASA-CASE-ARC-11031-1
				US-PATENT-APPL-SN-897832				US-PATENT-CLASS-12520-1				US-PATENT-APPL-SN-897828
				US-PATENT-CLASS-134-17	N81-28698*	c 51	.....	US-PATENT-APPL-SN-067596				US-PATENT-CLASS-128-275
				US-PATENT-CLASS-166-222				US-PATENT-CLASS-204-1T				US-PATENT-CLASS-128-760
				US-PATENT-CLASS-166-77				US-PATENT-CLASS-204-195B				US-PATENT-4,190,060
				US-PATENT-CLASS-239-562				US-PATENT-CLASS-435-291	N81-29764*	c 52	.....	NASA-CASE-ARC-11118-1
				US-PATENT-CLASS-239-591				US-PATENT-CLASS-435-34				US-PATENT-APPL-SN-850504
				US-PATENT-CLASS-299-13				US-PATENT-CLASS-435-5				US-PATENT-CLASS-424-247
				US-PATENT-CLASS-299-17				US-PATENT-4,264,728				US-PATENT-CLASS-424-267
				US-PATENT-CLASS-299-20	N81-28740*	c 52	.....	NASA-CASE-MS-18381-1				US-PATENT-CLASS-424-274
				US-PATENT-4,226,475				US-PATENT-APPL-SN-034531				US-PATENT-4,279,906
N81-26718*	c 54	.....		NASA-CASE-MFS-23696-1				US-PATENT-CLASS-128-295	N81-29963*	c 74	.....	NASA-CASE-NPO-14448-1
				US-PATENT-APPL-SN-945044				US-PATENT-CLASS-4-144.3				US-PATENT-APPL-SN-037560
				US-PATENT-CLASS-294-93				US-PATENT-4,270,539				US-PATENT-CLASS-356-345
				US-PATENT-CLASS-414-4	N81-29129*	c 07	.....	NASA-CASE-LEW-12990-1				US-PATENT-CLASS-356-346
				US-PATENT-CLASS-414-735				US-PATENT-APPL-SN-916654				US-PATENT-4,278,351
				US-PATENT-CLASS-414-744A				US-PATENT-CLASS-261-28	N81-32510*	c 3/	.....	NASA-CASE-MSC-10230-1
				US-PATENT-4,273,505				US-PATENT-CLASS-431-2				US-PATENT-APPL-SN-847276
N81-27271*	c 27	.....		NASA-CASE-ARC-11176-2				US-PATENT-CLASS-60-39.06				US-PATENT-CLASS-91-325
				US-PATENT-APPL-SN-129798				US-PATENT-CLASS-60-726				US-PATENT-CLASS-91-341R
				US-PATENT-CLASS-528-168				US-PATENT-CLASS-60-737				US-PATENT-CLASS-91-410
				US-PATENT-CLASS-528-399				US-PATENT-4,189,914				US-PATENT-4,283,995
				US-PATENT-CLASS-528-4	N81-29152*	c 18	.....	NASA-CASE-LAR-12052-1	N81-32829*	c 51	.....	NASA-CASE-MFS-23825-1

		US-PATENT-APPL-SN-145273			US-PATENT-CLASS-528-351			US-PATENT-CLASS-250-235
		US-PATENT-CLASS-119-17			US-PATENT-CLASS-528-353			US-PATENT-CLASS-250-236
		US-PATENT-CLASS-119-18			US-PATENT-4,284,461			US-PATENT-CLASS-358-109
		US-PATENT-4,284,034	N82-11336*	c 32	NASA-CASE-MSC-18606-1	N82-15381*	c 35	US-PATENT-4,300,159
N81-33235*	c 24	NASA-CASE-LAR-12065-2			US-PATENT-APPL-SN-145206			NASA-CASE-NPO-14839-1
		US-PATENT-APPL-SN-119337			US-PATENT-CLASS-343-700MS			US-PATENT-APPL-SN-106119
		US-PATENT-APPL-SN-889671			US-PATENT-CLASS-343-708			US-PATENT-CLASS-343-100PE
		US-PATENT-CLASS-156-242			US-PATENT-CLASS-343-727			US-PATENT-CLASS-455-137
		US-PATENT-CLASS-156-245			US-PATENT-CLASS-343-795			US-PATENT-CLASS-455-139
		US-PATENT-CLASS-156-252			US-PATENT-CLASS-343-846			US-PATENT-CLASS-455-60
		US-PATENT-CLASS-156-264			US-PATENT-4,287,518			US-PATENT-4,295,140
		US-PATENT-CLASS-156-285	N82-11357*	c 33	NASA-CASE-MSC-18106-1	N82-16059*	c 04	NASA-CASE-ARC-10990-1
		US-PATENT-CLASS-156-290			US-PATENT-APPL-SN-098568			US-PATENT-APPL-SN-749420
		US-PATENT-4,229,473			US-PATENT-CLASS-335-256			US-PATENT-CLASS-244-114R
		US-PATENT-4,274,901			US-PATENT-CLASS-335-266			US-PATENT-CLASS-340-26
N81-33246*	c 25	NASA-CASE-NPO-14272-1			US-PATENT-CLASS-361-141			US-PATENT-4,291,294
		US-PATENT-APPL-SN-878253			US-PATENT-4,295,111	N82-16075*	c 06	NASA-CASE-FRC-11005-1
		US-PATENT-APPL-SN-037072			NASA-CASE-MFS-25586-1			US-PATENT-APPL-SN-043942
		US-PATENT-CLASS-44-1R	N82-11360* #	c 33	US-PATENT-APPL-SN-310714			US-PATENT-CLASS-340-27NA
		US-PATENT-CLASS-44-2			NASA-CASE-LEW-12950-1			US-PATENT-CLASS-73-178R
		US-PATENT-4,146,367	N82-11399* #	c 34	US-PATENT-APPL-SN-202228			US-PATENT-4,283,705
N81-33319*	c 31	NASA-CASE-NPO-14596-1			NASA-CASE-LAR-12552-1	N82-16174*	c 23	NASA-CASE-ARC-11244-1
		US-PATENT-APPL-SN-037072	N82-11431*	c 35	US-PATENT-APPL-SN-070366			US-PATENT-APPL-SN-054501
		US-PATENT-CLASS-264-24			US-PATENT-CLASS-235-92PC			US-PATENT-CLASS-260-340.9R
		US-PATENT-CLASS-264-5			US-PATENT-CLASS-324-71CP			US-PATENT-CLASS-568-445
		US-PATENT-CLASS-264-9			US-PATENT-4,286,209			US-PATENT-CLASS-568-497
		US-PATENT-CLASS-425-6	N82-11432*	c 35	NASA-CASE-MFS-23250-1			US-PATENT-4,277,402
		US-PATENT-CLASS-65-142			US-PATENT-APPL-SN-119340	N82-16238*	c 27	NASA-CASE-MSC-18382-1
		US-PATENT-CLASS-65-21.4			US-PATENT-CLASS-422-40			US-PATENT-APPL-SN-145107
		US-PATENT-CLASS-65-22			US-PATENT-CLASS-430-17			US-PATENT-CLASS-106-18.16
		US-PATENT-4,279,632			US-PATENT-CLASS-430-372			US-PATENT-CLASS-106-18.24
N81-33403*	c 33	NASA-CASE-GSC-12324-1			US-PATENT-4,287,152			US-PATENT-CLASS-260-45.7R
		US-PATENT-APPL-SN-945043	N82-11469* #	c 37	NASA-CASE-NPO-15539-1			US-PATENT-CLASS-427-393.3
		US-PATENT-CLASS-358-109			US-PATENT-APPL-SN-303670			US-PATENT-CLASS-428-263
		US-PATENT-CLASS-358-213	N82-11634*	c 45	NASA-CASE-NPO-13877-1			US-PATENT-CLASS-428-264
		US-PATENT-4,280,141			US-PATENT-APPL-SN-652979			US-PATENT-CLASS-428-265
N81-33404*	c 33	NASA-CASE-NPO-14316-1			US-PATENT-CLASS-210-40			US-PATENT-CLASS-428-267
		US-PATENT-APPL-SN-051276			US-PATENT-CLASS-252-422			US-PATENT-CLASS-428-272
		US-PATENT-CLASS-363-24			US-PATENT-4,209,393			US-PATENT-4,284,682
		US-PATENT-CLASS-363-56	N82-11770*	c 52	NASA-CASE-MSC-14836-1	N82-16340*	c 33	NASA-CASE-GSC-12420-1
		US-PATENT-4,276,588			US-PATENT-APPL-SN-691647			US-PATENT-APPL-SN-129793
N81-33405*	c 33	NASA-CASE-NPO-14435-1			US-PATENT-CLASS-128-327			US-PATENT-CLASS-333-104
		US-PATENT-APPL-SN-017886			US-PATENT-CLASS-128-686			US-PATENT-CLASS-333-246
		US-PATENT-CLASS-329-122			US-PATENT-CLASS-128-691			US-PATENT-4,302,734
		US-PATENT-CLASS-331-DIG.2			US-PATENT-4,294,261	N82-16396*	c 36	NASA-CASE-GSC-12321-1
		US-PATENT-CLASS-364-514	N82-12166*	c 25	NASA-CASE-MSC-16497-1			US-PATENT-APPL-SN-102001
		US-PATENT-CLASS-375-1			US-PATENT-APPL-SN-041145			US-PATENT-CLASS-356-349
		US-PATENT-4,279,018			US-PATENT-CLASS-204-1T			US-PATENT-CLASS-356-386
N81-33448*	c 35	NASA-CASE-NPO-14258-1			US-PATENT-CLASS-204-195S			US-PATENT-4,299,492
		US-PATENT-APPL-SN-853349			US-PATENT-CLASS-204-263	N82-16408*	c 37	NASA-CASE-MSC-18422-1
		US-PATENT-APPL-SN-972252			US-PATENT-CLASS-204-264			US-PATENT-APPL-SN-102593
		US-PATENT-CLASS-350-370			US-PATENT-CLASS-204-266			US-PATENT-CLASS-244-113
		US-PATENT-CLASS-356-350			US-PATENT-CLASS-204-275			US-PATENT-CLASS-244-163
		US-PATENT-CLASS-356-351			US-PATENT-CLASS-204-276			US-PATENT-CLASS-244-217
		US-PATENT-4,280,766			US-PATENT-CLASS-204-278			US-PATENT-CLASS-277-189
N81-33482*	c 37	NASA-CASE-NPO-15227-1			US-PATENT-CLASS-23-230PC			US-PATENT-CLASS-277-81R
		US-PATENT-APPL-SN-163840			US-PATENT-CLASS-23-232E			US-PATENT-CLASS-418-113
		US-PATENT-CLASS-118-50			US-PATENT-CLASS-422-80			US-PATENT-CLASS-418-142
		US-PATENT-CLASS-118-52			US-PATENT-4,293,522			US-PATENT-4,290,612
		US-PATENT-CLASS-269-21	N82-12297*	c 32	NASA-CASE-NPO-14054-1	N82-16474*	c 44	NASA-CASE-MFS-23775-1
		US-PATENT-CLASS-427-240			US-PATENT-APPL-SN-969761			US-PATENT-APPL-SN-098569
		US-PATENT-4,280,689			US-PATENT-CLASS-343-5CM			US-PATENT-CLASS-73-341
N81-33483*	c 37	NASA-CASE-FRC-11044-1			US-PATENT-4,292,634			US-PATENT-4,282,752
		US-PATENT-APPL-SN-135056	N82-12441*	c 37	NASA-CASE-MFS-25363-1	N82-16475*	c 44	NASA-CASE-NPO-15071-1
		US-PATENT-CLASS-318-663			US-PATENT-APPL-SN-171933			US-PATENT-APPL-SN-150115
		US-PATENT-CLASS-74-89			US-PATENT-CLASS-118-423			US-PATENT-CLASS-126-438
		US-PATENT-CLASS-92-130R			US-PATENT-CLASS-118-500			US-PATENT-CLASS-250-527
		US-PATENT-4,274,038			US-PATENT-CLASS-134-137			US-PATENT-CLASS-48-89
N82-11088*	c 09	NASA-CASE-LAR-12532-1			US-PATENT-4,286,542			US-PATENT-CLASS-48-99
		US-PATENT-APPL-SN-135040	N82-12442*	c 37	NASA-CASE-LEW-12989-1			US-PATENT-4,290,779
		US-PATENT-CLASS-73-147			US-PATENT-APPL-SN-092145	N82-16747*	c 60	NASA-CASE-GSC-12430-1
		US-PATENT-4,286,460			US-PATENT-CLASS-277-27			US-PATENT-APPL-SN-129779
N82-11144*	c 25	NASA-CASE-NPO-14273-1			US-PATENT-CLASS-277-40			US-PATENT-CLASS-370-100
		US-PATENT-APPL-SN-969759			US-PATENT-CLASS-277-93R			US-PATENT-CLASS-375-106
		US-PATENT-CLASS-110-234			US-PATENT-4,291,887			US-PATENT-CLASS-375-114
		US-PATENT-CLASS-110-245	N82-12685*	c 46	NASA-CASE-NPO-14544-1			US-PATENT-CLASS-375-116
		US-PATENT-CLASS-110-255			US-PATENT-APPL-SN-078612			US-PATENT-4,298,987
		US-PATENT-CLASS-110-266			US-PATENT-CLASS-343-100ME	N82-16800*	c 71	NASA-CASE-FRC-11062-1
		US-PATENT-CLASS-122-4D			US-PATENT-CLASS-343-100PE			US-PATENT-APPL-SN-185869
		US-PATENT-4,287,838			US-PATENT-CLASS-343-781P			US-PATENT-CLASS-181-214
N82-11206*	c 27	NASA-CASE-LAR-12640-1			US-PATENT-4,282,525			US-PATENT-4,300,656
		US-PATENT-APPL-SN-092142	N82-13376*	c 34	NASA-CASE-MFS-25139-1	N82-18314*	c 20	NASA-CASE-GSC-12194-2
		US-PATENT-CLASS-156-307.7			US-PATENT-APPL-SN-126138			US-PATENT-APPL-SN-819029
		US-PATENT-CLASS-156-307.3			US-PATENT-CLASS-239-499			US-PATENT-APPL-SN-971474
		US-PATENT-CLASS-156-307.5			US-PATENT-CLASS-239-589			US-PATENT-CLASS-60-200R
		US-PATENT-CLASS-156-331.5			US-PATENT-CLASS-239-601			US-PATENT-CLASS-60-39.46M
		US-PATENT-CLASS-528-126			US-PATENT-4,300,723			US-PATENT-4,288,982
		US-PATENT-CLASS-528-172	N82-13415*	c 36	NASA-CASE-LAR-12592-1	N82-18389*	c 27	NASA-CASE-ARC-11176-1
		US-PATENT-CLASS-528-173			US-PATENT-APPL-SN-041141			US-PATENT-APPL-SN-129799
		US-PATENT-CLASS-528-180			US-PATENT-CLASS-331-94.5C			US-PATENT-CLASS-528-168
		US-PATENT-CLASS-528-207			US-PATENT-CLASS-331-94.5D			US-PATENT-CLASS-528-399
		US-PATENT-CLASS-528-208			US-PATENT-CLASS-331-94.5P			US-PATENT-CLASS-528-4
		US-PATENT-CLASS-528-210			US-PATENT-4,300,106			US-PATENT-CLASS-528-6
		US-PATENT-CLASS-528-211	N82-13465*	c 43	NASA-CASE-GSC-12032-2			US-PATENT-CLASS-528-7
		US-PATENT-CLASS-528-225			US-PATENT-APPL-SN-578700			US-PATENT-CLASS-568-2
		US-PATENT-CLASS-528-228			US-PATENT-APPL-SN-583219			US-PATENT-CLASS-568-4

N82-18401*	c 28	US-PATENT-CLASS-568-5	US-PATENT-CLASS-244-190	US-PATENT-CLASS-428-466
		US-PATENT-4,288,585	US-PATENT-CLASS-318-580	US-PATENT-CLASS-428-493
N82-18443*	c 32	NASA-CASE-ARC-11245-1	US-PATENT-4,326,685	US-PATENT-4,327,150
		US-PATENT-APPL-SN-088663	NASA-CASE-LAR-12441-1	NASA-CASE-LEW-12632-1
N82-18493*	c 33	US-PATENT-CLASS-239-690	US-PATENT-APPL-SN-145210	US-PATENT-APPL-SN-073579
		US-PATENT-CLASS-361-226	US-PATENT-CLASS-73-147	US-PATENT-CLASS-315-3.6
N82-18494*	c 33	US-PATENT-CLASS-361-230	US-PATENT-4,327,581	US-PATENT-CLASS-315-5.38
		US-PATENT-4,303,961	NASA-CASE-NPO-14542-1	US-PATENT-4,277,721
N82-18601*	c 37	NASA-CASE-NPO-14632-1	US-PATENT-APPL-SN-030831	NASA-CASE-LAR-12633-1
		US-PATENT-APPL-SN-092143	US-PATENT-CLASS-166-267	US-PATENT-APPL-SN-135039
N82-18686*	c 44	US-PATENT-CLASS-367-100	US-PATENT-CLASS-166-303	US-PATENT-CLASS-358-213
		US-PATENT-CLASS-367-102	US-PATENT-CLASS-208-241	US-PATENT-4,279,001
N82-19029*	c 74	US-PATENT-CLASS-367-88	US-PATENT-4,310,049	NASA-CASE-FRC-11025-1
		US-PATENT-4,287,578	NASA-CASE-NPO-14361-1	US-PATENT-APPL-SN-115536
N82-19540*	c 37	NASA-CASE-FRC-11041-1	US-PATENT-APPL-SN-053572	US-PATENT-CLASS-328-167
		US-PATENT-APPL-SN-126064	US-PATENT-CLASS-343-17.1PF	US-PATENT-CLASS-330-109
N82-21268*	c 25	US-PATENT-CLASS-318-561	US-PATENT-CLASS-343-50P	US-PATENT-CLASS-330-290
		US-PATENT-CLASS-318-620	US-PATENT-CLASS-343-7.5	US-PATENT-CLASS-330-294
N82-21269*	c 25	US-PATENT-CLASS-318-621	US-PATENT-CLASS-356-5	US-PATENT-CLASS-330-306
		US-PATENT-CLASS-318-622	US-PATENT-CLASS-367-95	US-PATENT-CLASS-364-825
N82-21587*	c 37	US-PATENT-4,298,833	US-PATENT-4,320,397	US-PATENT-4,275,453
		NASA-CASE-FRC-11014-1	NASA-CASE-NPO-14813-1	NASA-CASE-NPO-14556-1
N82-22496* #	c 37	US-PATENT-APPL-SN-053652	US-PATENT-APPL-SN-023485	US-PATENT-APPL-SN-023485
		US-PATENT-CLASS-331-113R	US-PATENT-CLASS-250-216	US-PATENT-CLASS-307-415
N82-22875*	c 52	US-PATENT-CLASS-363-132	US-PATENT-CLASS-250-235	US-PATENT-CLASS-328-67
		US-PATENT-CLASS-363-17	US-PATENT-4,320,290	US-PATENT-CLASS-331-94.5G
N82-23231*	c 04	US-PATENT-CLASS-363-61	NASA-CASE-LAR-12412-1	US-PATENT-CLASS-331-94.5PE
		US-PATENT-4,298,926	US-PATENT-APPL-SN-067595	US-PATENT-CLASS-333-20
N82-23254*	c 09	NASA-CASE-LAR-12372-1	US-PATENT-CLASS-244-213	US-PATENT-4,275,317
		US-PATENT-APPL-SN-108107	US-PATENT-CLASS-244-226	NASA-CASE-GSC-12415-1
N82-23282*	c 25	US-PATENT-CLASS-188-371	US-PATENT-CLASS-244-78	US-PATENT-APPL-SN-043943
		US-PATENT-CLASS-244-110C	US-PATENT-CLASS-74-479	US-PATENT-CLASS-165-32
N82-23376*	c 32	US-PATENT-CLASS-280-805	US-PATENT-CLASS-74-480R	US-PATENT-CLASS-62-383
		US-PATENT-CLASS-57-906	US-PATENT-4,272,046	US-PATENT-4,281,708
N82-23376*	c 32	US-PATENT-4,304,320	NASA-CASE-ARC-11158-1	NASA-CASE-ARC-11116-1
		NASA-CASE-MFS-25287-1	US-PATENT-APPL-SN-053566	US-PATENT-APPL-SN-069485
N82-24272*	c 15	US-PATENT-APPL-SN-098570	US-PATENT-CLASS-434-42	US-PATENT-CLASS-324-51
		US-PATENT-CLASS-126-422	US-PATENT-CLASS-434-43	US-PATENT-CLASS-324-52
N82-24296*	c 24	US-PATENT-CLASS-126-429	US-PATENT-4,313,726	US-PATENT-4,282,479
		US-PATENT-CLASS-126-430	NASA-CASE-ARC-11256-1	NASA-CASE-GSC-12518-1
N82-24312*	c 25	US-PATENT-4,304,219	US-PATENT-APPL-SN-032305	US-PATENT-APPL-SN-119336
		NASA-CASE-NPO-15036-1	US-PATENT-CLASS-102-504	US-PATENT-CLASS-310-12
N82-24338*	c 27	US-PATENT-APPL-SN-188160	US-PATENT-CLASS-242-128	US-PATENT-CLASS-318-135
		US-PATENT-CLASS-455-610	US-PATENT-4,271,761	US-PATENT-CLASS-335-229
N82-24340*	c 27	US-PATENT-CLASS-455-612	NASA-CASE-FRC-11026-1	US-PATENT-CLASS-335-266
		US-PATENT-CLASS-455-615	US-PATENT-APPL-SN-043944	US-PATENT-4,315,197
N82-24418*	c 33	US-PATENT-CLASS-455-617	US-PATENT-CLASS-228-157	NASA-CASE-GSC-12595-1
		US-PATENT-4,287,606	US-PATENT-CLASS-244-119	US-PATENT-APPL-SN-206506
N82-24419*	c 33	NASA-CASE-LEW-12131-3	US-PATENT-CLASS-244-123	US-PATENT-CLASS-336-120
		US-PATENT-APPL-SN-096255	US-PATENT-CLASS-428-593	US-PATENT-CLASS-336-83
N82-24420*	c 33	US-PATENT-APPL-SN-801290	US-PATENT-CLASS-428-594	US-PATENT-4,321,572
		US-PATENT-APPL-SN-931090	US-PATENT-CLASS-428-604	NASA-CASE-MSC-18407-1
N82-24422*	c 33	US-PATENT-CLASS-415-174	US-PATENT-4,292,375	US-PATENT-APPL-SN-293419
		US-PATENT-CLASS-415-196	NASA-CASE-ARC-11097-1	NASA-CASE-LAR-12321-1
N82-24427* #	c 33	US-PATENT-4,135,851	US-PATENT-APPL-SN-891872	US-PATENT-APPL-SN-178195
		US-PATENT-4,207,024	US-PATENT-CLASS-260-386	US-PATENT-CLASS-29-613
N82-24470*	c 35	US-PATENT-4,295,786	US-PATENT-CLASS-260-389	US-PATENT-CLASS-338-25
		NASA-CASE-LEW-12358-2	US-PATENT-CLASS-528-402	US-PATENT-CLASS-338-275
N82-24471*	c 35	US-PATENT-APPL-SN-776146	US-PATENT-CLASS-570-123	US-PATENT-CLASS-338-28
		US-PATENT-APPL-SN-848428	US-PATENT-CLASS-570-129	US-PATENT-4,317,102
N82-24490*	c 37	US-PATENT-CLASS-264-216	US-PATENT-4,307,024	NASA-CASE-GSC-12354-1
		US-PATENT-CLASS-264-453	NASA-CASE-ARC-11253-2	US-PATENT-APPL-SN-128229
N82-24491*	c 37	US-PATENT-CLASS-264-53	US-PATENT-APPL-SN-028301	US-PATENT-CLASS-250-385
		US-PATENT-CLASS-427-115	US-PATENT-APPL-SN-145284	US-PATENT-CLASS-250-386
N82-24492*	c 37	US-PATENT-CLASS-427-244	US-PATENT-CLASS-528-310	US-PATENT-CLASS-250-389
		US-PATENT-CLASS-427-246	US-PATENT-CLASS-528-328	US-PATENT-CLASS-29-25.14
N82-24492*	c 37	US-PATENT-4,133,941	US-PATENT-CLASS-528-362	US-PATENT-CLASS-313-348
		US-PATENT-4,309,372	US-PATENT-CLASS-528-401	US-PATENT-CLASS-313-93
N82-24492*	c 37	NASA-CASE-XLA-08914-2	US-PATENT-CLASS-528-422	US-PATENT-4,325,001
		US-PATENT-APPL-SN-662181	US-PATENT-4,273,918	NASA-CASE-LAR-12315-1
N82-24492*	c 37	US-PATENT-APPL-SN-810576	NASA-CASE-ARC-11310-1	US-PATENT-APPL-SN-096257
		US-PATENT-CLASS-210-321.1	US-PATENT-APPL-SN-147700	US-PATENT-CLASS-220-378
N82-24492*	c 37	US-PATENT-CLASS-55-158	US-PATENT-CLASS-102-289	US-PATENT-CLASS-277-1
		US-PATENT-4,302,223	US-PATENT-CLASS-244-121	US-PATENT-CLASS-277-105
N82-24492*	c 37	NASA-CASE-NPO-14395-1	US-PATENT-CLASS-244-158A	US-PATENT-CLASS-277-2
		US-PATENT-APPL-SN-961833	US-PATENT-CLASS-244-160	US-PATENT-CLASS-277-204
N82-24492*	c 37	US-PATENT-CLASS-104-83	US-PATENT-CLASS-428-192	US-PATENT-CLASS-277-4
		US-PATENT-CLASS-105-1A	US-PATENT-CLASS-428-193	US-PATENT-CLASS-277-59
N82-24492*	c 37	US-PATENT-CLASS-105-171	US-PATENT-CLASS-428-241	US-PATENT-CLASS-277-72R
		US-PATENT-CLASS-105-180	US-PATENT-CLASS-428-242	US-PATENT-CLASS-285-37
N82-24492*	c 37	US-PATENT-CLASS-105-218R	US-PATENT-CLASS-428-245	US-PATENT-4,309,039
		US-PATENT-CLASS-248-425	US-PATENT-CLASS-428-251	NASA-CASE-MSC-18430-1
N82-24492*	c 37	US-PATENT-4,301,740	US-PATENT-CLASS-428-257	US-PATENT-APPL-SN-113015
		NASA-CASE-ARC-11325-1	US-PATENT-CLASS-428-260	US-PATENT-CLASS-156-84
N82-24492*	c 37	US-PATENT-APPL-SN-354126	US-PATENT-CLASS-428-266	US-PATENT-CLASS-156-85
		NASA-CASE-GSC-12081-2	US-PATENT-CLASS-428-447	US-PATENT-CLASS-156-86
N82-24492*	c 37	US-PATENT-APPL-SN-672209	US-PATENT-CLASS-428-448	US-PATENT-CLASS-264-230
		US-PATENT-APPL-SN-796258	US-PATENT-CLASS-428-49	US-PATENT-CLASS-264-342R
N82-24492*	c 37	US-PATENT-CLASS-128-1.2	US-PATENT-4,309,393	US-PATENT-4,269,640
		US-PATENT-CLASS-128-778	NASA-CASE-MFS-25181-1	NASA-CASE-ARC-11110-1
N82-24492*	c 37	US-PATENT-CLASS-33-143C	US-PATENT-APPL-SN-218585	US-PATENT-APPL-SN-945040
		US-PATENT-4,294,264	US-PATENT-CLASS-156-315	US-PATENT-CLASS-118-320
N82-24492*	c 37	NASA-CASE-FRC-11052-1	US-PATENT-CLASS-156-338	US-PATENT-CLASS-118-500
		US-PATENT-APPL-SN-129783	US-PATENT-CLASS-428-332	US-PATENT-CLASS-118-503
N82-24492*	c 37	US-PATENT-CLASS-244-168	US-PATENT-CLASS-428-339	US-PATENT-CLASS-118-505
		US-PATENT-CLASS-244-175	US-PATENT-CLASS-428-462	US-PATENT-CLASS-427-425

N82-24493*	c 37	US-PATENT-4,312,292	N82-26571*	c 33	US-PATENT-CLASS-340-347DD	N82-28442*	c 27	US-PATENT-APPL-SN-161254
		NASA-CASE-NPO-15115-1			US-PATENT-4,313,103			US-PATENT-CLASS-427-205
		US-PATENT-APPL-SN-154725			NASA-CASE-LAR-12595-1			US-PATENT-CLASS-427-253
		US-PATENT-CLASS-74-18.1			US-PATENT-APPL-SN-070774			US-PATENT-CLASS-427-405
N82-24494*	c 37	US-PATENT-CLASS-74-18.2	N82-26572*	c 33	US-PATENT-CLASS-156-157	N82-28545*	c 33	US-PATENT-CLASS-428-938
		US-PATENT-CLASS-92-37			US-PATENT-CLASS-156-272			US-PATENT-CLASS-428-941
		US-PATENT-4,311,057			US-PATENT-CLASS-156-379.7			US-PATENT-4,310,574
		NASA-CASE-MSC-18526-1			US-PATENT-CLASS-156-71			NASA-CASE-NPO-14845-1
N82-24639*	c 44	US-PATENT-APPL-SN-119335	N82-26628*	c 35	US-PATENT-CLASS-219-10.41	N82-28604*	c 35	US-PATENT-APPL-SN-219680
		US-PATENT-CLASS-285-159			US-PATENT-CLASS-219-10.53			US-PATENT-CLASS-264-5
		US-PATENT-CLASS-285-401			US-PATENT-CLASS-219-545			US-PATENT-CLASS-425-6
		US-PATENT-CLASS-285-89			US-PATENT-CLASS-428-247			US-PATENT-CLASS-65-142
N82-24640*	c 44	US-PATENT-CLASS-403-315	N82-26631* #	c 35	US-PATENT-4,313,777	N82-28616*	c 36	US-PATENT-CLASS-65-21.4
		US-PATENT-4,320,911			NASA-CASE-LAR-12465-1			US-PATENT-CLASS-65-22
		NASA-CASE-MFS-23830-1			US-PATENT-APPL-SN-106136			US-PATENT-4,313,745
		US-PATENT-APPL-SN-129780			US-PATENT-CLASS-361-283			NASA-CASE-MFS-23776-1
N82-24641*	c 44	US-PATENT-CLASS-415-DIG.8	N82-26672*	c 37	US-PATENT-CLASS-367-181	N82-28780*	c 44	US-PATENT-APPL-SN-145272
		US-PATENT-CLASS-415-2R			US-PATENT-CLASS-73-724			US-PATENT-CLASS-250-214
		US-PATENT-4,309,146			US-PATENT-4,310,906			US-PATENT-CLASS-250-221
		NASA-CASE-LAR-12148-1			NASA-CASE-LAR-12474-1			US-PATENT-4,319,133
N82-24642*	c 44	US-PATENT-APPL-SN-051275	N82-26673* #	c 37	US-PATENT-APPL-SN-171934	N82-29002*	c 54	NASA-CASE-LAR-12709-1
		US-PATENT-CLASS-60-516			US-PATENT-CLASS-352-171			US-PATENT-APPL-SN-235796
		US-PATENT-CLASS-60-641.14			US-PATENT-CLASS-354-217			US-PATENT-CLASS-204-195B
		US-PATENT-4,326,381			US-PATENT-CLASS-354-289			US-PATENT-CLASS-435-291
N82-24643*	c 44	NASA-CASE-GSC-10019-1	N82-26674* #	c 37	US-PATENT-4,311,378	N82-29013*	c 60	US-PATENT-CLASS-435-34
		US-PATENT-APPL-SN-680048			NASA-CASE-MFS-25707-1			US-PATENT-CLASS-435-39
		US-PATENT-CLASS-136-6			US-PATENT-APPL-SN-359627			US-PATENT-4,335,206
		US-PATENT-CLASS-136-6			NASA-CASE-MSC-16536-1			NASA-CASE-NPO-14782-1
N82-24644*	c 44	US-PATENT-CLASS-136-6	N82-26676*	c 44	US-PATENT-APPL-SN-138944	N82-29330*	c 09	US-PATENT-APPL-SN-119339
		US-PATENT-4,349,840			US-PATENT-CLASS-30-102			US-PATENT-CLASS-330-4.3
		NASA-CASE-GSC-10017-1			US-PATENT-4,305,205			US-PATENT-CLASS-372-56
		US-PATENT-APPL-SN-679980			NASA-CASE-MSC-18742-1			US-PATENT-CLASS-372-58
N82-24645*	c 44	US-PATENT-CLASS-136-6	N82-26777*	c 44	US-PATENT-APPL-SN-293417	N82-29358*	c 23	US-PATENT-CLASS-372-82
		US-PATENT-3,519,484			NASA-CASE-LEW-13268-2			US-PATENT-4,328,464
		NASA-CASE-GSC-10018-1			US-PATENT-APPL-SN-325931			NASA-CASE-NPO-13689-4
		US-PATENT-APPL-SN-679987			NASA-CASE-NPO-15183-1			US-PATENT-APPL-SN-225501
N82-24779*	c 47	US-PATENT-CLASS-136-6	N82-27086* #	c 71	US-PATENT-APPL-SN-173519	N82-29370*	c 25	US-PATENT-APPL-SN-597430
		US-PATENT-3,506,496			US-PATENT-CLASS-62-148			US-PATENT-APPL-SN-683073
		NASA-CASE-KSC-11099-1			US-PATENT-CLASS-62-235.1			US-PATENT-APPL-SN-837513
		US-PATENT-APPL-SN-043945			US-PATENT-CLASS-62-238.3			US-PATENT-APPL-SN-93714
N82-24839*	c 60	US-PATENT-CLASS-62-239	N82-27558*	c 32	US-PATENT-CLASS-62-244	N82-29371*	c 25	US-PATENT-CLASS-148-175
		US-PATENT-CLASS-62-476			US-PATENT-CLASS-62-476			US-PATENT-CLASS-29-572
		US-PATENT-4,307,575			US-PATENT-CLASS-62-476			US-PATENT-CLASS-427-531
		NASA-CASE-NPO-15179-1			US-PATENT-4,307,575			US-PATENT-CLASS-427-74
N82-25484* #	c 35	US-PATENT-CLASS-427-74	N82-27677*	c 44	US-PATENT-APPL-SN-15179-1	N82-29371*	c 25	US-PATENT-4,278,830
		US-PATENT-4,278,830			US-PATENT-APPL-SN-185867			US-PATENT-4,321,099
		US-PATENT-CLASS-62-235.1			US-PATENT-CLASS-136-261			NASA-CASE-XMS-03694-1
		US-PATENT-CLASS-62-238.3			US-PATENT-CLASS-136-290			US-PATENT-APPL-SN-394280
N82-26277*	c 05	US-PATENT-CLASS-148-1.5	N82-27677*	c 44	US-PATENT-CLASS-219-121LN	N82-29371*	c 25	US-PATENT-CLASS-165-46
		US-PATENT-CLASS-357-30			US-PATENT-CLASS-357-30			US-PATENT-3,295,594
		US-PATENT-CLASS-357-63			US-PATENT-CLASS-357-63			NASA-CASE-MSC-18498-1
		US-PATENT-4,311,870			US-PATENT-CLASS-311-870			US-PATENT-APPL-SN-173518
N82-26293*	c 07	NASA-CASE-ARC-11314-1	N82-26987*	c 54	US-PATENT-APPL-SN-11314-1	N82-29371*	c 25	US-PATENT-CLASS-244-194
		US-PATENT-APPL-SN-168943			US-PATENT-APPL-SN-168943			US-PATENT-CLASS-318-564
		US-PATENT-CLASS-73-862.08			US-PATENT-CLASS-73-862.08			US-PATENT-CLASS-371-68
		US-PATENT-4,311,055			US-PATENT-4,311,055			US-PATENT-4,327,437
N82-26277*	c 05	US-PATENT-4,311,055	N82-27086* #	c 71	NASA-CASE-NPO-15562-1	N82-29330*	c 09	NASA-CASE-KSC-11042-1
		US-PATENT-APPL-SN-364097			US-PATENT-APPL-SN-15562-1			US-PATENT-APPL-SN-154663
		NASA-CASE-MSC-18532-1			US-PATENT-APPL-SN-364097			US-PATENT-APPL-SN-862878
		US-PATENT-APPL-SN-172099			NASA-CASE-MSC-18532-1			US-PATENT-CLASS-53-429
N82-26293*	c 07	US-PATENT-CLASS-8-150	N82-27558*	c 32	US-PATENT-CLASS-8-150	N82-29358*	c 23	US-PATENT-CLASS-8-150
		US-PATENT-4,244,810			US-PATENT-CLASS-8-150			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
N82-26384*	c 24	US-PATENT-4,244,810	N82-27677*	c 44	US-PATENT-4,244,810	N82-29370*	c 25	US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
N82-26387* #	c 24	US-PATENT-4,244,810	N82-27677*	c 44	US-PATENT-4,244,810	N82-29370*	c 25	US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
N82-26396*	c 25	US-PATENT-4,244,810	N82-27677*	c 44	US-PATENT-4,244,810	N82-29370*	c 25	US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
N82-26568*	c 33	US-PATENT-4,244,810	N82-27677*	c 44	US-PATENT-4,244,810	N82-29370*	c 25	US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
N82-26569*	c 33	US-PATENT-4,244,810	N82-27677*	c 44	US-PATENT-4,244,810	N82-29370*	c 25	US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
N82-26570*	c 33	US-PATENT-4,244,810	N82-27677*	c 44	US-PATENT-4,244,810	N82-29370*	c 25	US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810
		US-PATENT-4,244,810			US-PATENT-4,244,810			US-PATENT-4,244,810

N82-29451*	c 27	US-PATENT-4,336,117 NASA-CASE-HQN-10274-1 US-PATENT-APPL-SN-683465 US-PATENT-CLASS-106-52 US-PATENT-3,573,078	N82-29863*	c 52	NASA-CASE-GSC-12560-1 US-PATENT-APPL-SN-153246 US-PATENT-CLASS-128-421 US-PATENT-4,308,868	N82-32732*	c 37	NASA-CASE-LAR-12482-1 US-PATENT-APPL-SN-100611 US-PATENT-CLASS-403-217 US-PATENT-CLASS-403-317 US-PATENT-CLASS-403-331 US-PATENT-CLASS-403-340 US-PATENT-CLASS-52-81 US-PATENT-4,340,318
N82-29452*	c 27	NASA-CASE-HQN-10931-2 US-PATENT-APPL-SN-246295 US-PATENT-APPL-SN-874674 US-PATENT-CLASS-106-50 US-PATENT-CLASS-106-52 US-PATENT-CLASS-106-54 US-PATENT-3,785,836	N82-30071*	c 74	NASA-CASE-MSC-18627-1 US-PATENT-APPL-SN-186881 US-PATENT-CLASS-250-226 US-PATENT-CLASS-250-231R US-PATENT-CLASS-374-162R US-PATENT-4,338,516	N82-32841*	c 44	NASA-CASE-LAR-12513-1 US-PATENT-APPL-SN-161256 US-PATENT-CLASS-250-330 US-PATENT-CLASS-250-370 US-PATENT-4,331,873
N82-29453*	c 27	NASA-CASE-LEW-13268-1 US-PATENT-APPL-SN-145209 US-PATENT-CLASS-415-174 US-PATENT-CLASS-427-34 US-PATENT-CLASS-427-423 US-PATENT-4,336,276	N82-30105*	c 76	NASA-CASE-NPO-14831-1 US-PATENT-APPL-SN-233269 US-PATENT-CLASS-156-602 US-PATENT-CLASS-156-608 US-PATENT-CLASS-422-246 US-PATENT-4,330,359	N82-33288*	c 85	NASA-CASE-FRC-11058-1 US-PATENT-APPL-SN-175453 US-PATENT-CLASS-105-2R US-PATENT-CLASS-244-53B US-PATENT-CLASS-296-1S US-PATENT-CLASS-296-24C US-PATENT-CLASS-296-91 US-PATENT-4,343,506
N82-29454*	c 27	NASA-CASE-HQN-10328-2 US-PATENT-APPL-SN-246294 US-PATENT-APPL-SN-874673 US-PATENT-CLASS-106-50 US-PATENT-CLASS-106-52 US-PATENT-CLASS-106-54 US-PATENT-3,811,901	N82-30371*	c 26	NASA-CASE-LEW-13169-2 US-PATENT-APPL-SN-102003 US-PATENT-APPL-SN-191746 US-PATENT-CLASS-204-192C US-PATENT-CLASS-428-457 US-PATENT-CLASS-428-472 US-PATENT-4,341,843	N82-33520*	c 27	NASA-CASE-KSC-11097-1 US-PATENT-APPL-SN-172100 US-PATENT-CLASS-427-140 US-PATENT-CLASS-427-372.2 US-PATENT-CLASS-427-397.7 US-PATENT-4,330,572
N82-29455*	c 27	NASA-CASE-HQN-10595-1 US-PATENT-APPL-SN-259056 US-PATENT-APPL-SN-874675 US-PATENT-CLASS-106-50 US-PATENT-CLASS-106-52 US-PATENT-3,947,281	N82-31505*	c 26	NASA-CASE-LEW-13339-1 US-PATENT-APPL-SN-199769 US-PATENT-CLASS-148-428 US-PATENT-CLASS-420-445 US-PATENT-CLASS-420-551 US-PATENT-CLASS-420-588 US-PATENT-4,340,425	N82-33521*	c 27	NASA-CASE-LEW-13028-1 US-PATENT-APPL-SN-218588 US-PATENT-CLASS-204-192E US-PATENT-CLASS-204-192EC US-PATENT-CLASS-204-38B US-PATENT-CLASS-428-141 US-PATENT-4,344,996
N82-29456*	c 27	NASA-CASE-MSC-18741-1 US-PATENT-APPL-SN-217336 US-PATENT-CLASS-156-329 US-PATENT-CLASS-244-121 US-PATENT-CLASS-244-158A US-PATENT-CLASS-244-160 US-PATENT-CLASS-244-163 US-PATENT-CLASS-428-212 US-PATENT-CLASS-428-218 US-PATENT-CLASS-428-283 US-PATENT-CLASS-428-289 US-PATENT-CLASS-428-307.7 US-PATENT-CLASS-428-311.5 US-PATENT-CLASS-428-312.6 US-PATENT-CLASS-428-317.9 US-PATENT-CLASS-428-325 US-PATENT-CLASS-428-446 US-PATENT-CLASS-428-49 US-PATENT-4,338,368	N82-31583*	c 32	NASA-CASE-MSC-16462-1 US-PATENT-APPL-SN-900841 US-PATENT-CLASS-178-22.16 US-PATENT-CLASS-178-22.17 US-PATENT-CLASS-364-717 US-PATENT-CLASS-375-106 US-PATENT-4,341,925	N82-33523* #	c 27	NASA-CASE-ARC-14408-1 US-PATENT-APPL-SN-403371 US-PATENT-CLASS-15670-1 US-PATENT-APPL-SN-409679
N82-29538*	c 33	NASA-CASE-NPO-15066-1 US-PATENT-APPL-SN-191744 US-PATENT-CLASS-179-18GF US-PATENT-CLASS-340-825.89 US-PATENT-CLASS-370-67 US-PATENT-4,331,956	N82-31659*	c 35	NASA-CASE-LAR-12363-1 US-PATENT-APPL-SN-191748 US-PATENT-CLASS-250-332 US-PATENT-CLASS-250-370 US-PATENT-CLASS-29-576J US-PATENT-CLASS-29-576S US-PATENT-CLASS-29-620 US-PATENT-4,341,012	N82-33996*	c 52	NASA-CASE-NPO-14549-2 US-PATENT-APPL-SN-149526 US-PATENT-APPL-SN-918705 US-PATENT-CLASS-128-422 US-PATENT-CLASS-128-784 US-PATENT-CLASS-128-804 US-PATENT-4,346,715
N82-29539*	c 33	NASA-CASE-NPO-14311-1 US-PATENT-APPL-SN-969762 US-PATENT-CLASS-328-166 US-PATENT-CLASS-455-202 US-PATENT-CLASS-455-208 US-PATENT-CLASS-455-234 US-PATENT-CLASS-455-306 US-PATENT-4,336,616	N82-31690* #	c 37	NASA-CASE-MSC-20304-1 US-PATENT-APPL-SN-393585 US-PATENT-CLASS-136-249 US-PATENT-CLASS-357-30 US-PATENT-4,341,918	N83-10040*	c 06	NASA-CASE-NPO-15351-1 US-PATENT-APPL-SN-224231 US-PATENT-CLASS-343-100ME US-PATENT-CLASS-374-122 US-PATENT-CLASS-374-123 US-PATENT-CLASS-73-170R US-PATENT-CLASS-73-178R US-PATENT-4,346,595
N82-29589*	c 36	NASA-CASE-NPO-15111-1 US-PATENT-APPL-SN-150040 US-PATENT-CLASS-350-358 US-PATENT-4,332,441	N82-31764*	c 44	NASA-CASE-LEW-13400-1 US-PATENT-APPL-SN-219677 US-PATENT-CLASS-136-249 US-PATENT-CLASS-357-30 US-PATENT-4,341,918	N83-10117*	c 24	NASA-CASE-LEW-12919-1 US-PATENT-APPL-SN-264378 US-PATENT-CLASS-204-192E US-PATENT-CLASS-313-106 US-PATENT-CLASS-313-107 US-PATENT-CLASS-315-5.38 US-PATENT-4,349,424
N82-29708*	c 44	NASA-CASE-LEW-13171-1 US-PATENT-APPL-SN-238790 US-PATENT-CLASS-429-144 US-PATENT-CLASS-429-251 US-PATENT-CLASS-429-254 US-PATENT-4,331,746	N82-32366*	c 07	NASA-CASE-LEW-12938-1 US-PATENT-APPL-SN-060449 US-PATENT-CLASS-415-145 US-PATENT-CLASS-415-178 US-PATENT-CLASS-60-39.07 US-PATENT-CLASS-60-39.29 US-PATENT-CLASS-60-726 US-PATENT-4,329,114	N83-10126*	c 25	NASA-CASE-MFS-25426-1 US-PATENT-APPL-SN-254575 US-PATENT-CLASS-204-299R US-PATENT-4,349,429
N82-29709*	c 44	NASA-CASE-LEW-13401-1 US-PATENT-APPL-SN-219678 US-PATENT-CLASS-136-249 US-PATENT-CLASS-148-1.5 US-PATENT-CLASS-29-572 US-PATENT-CLASS-357-30 US-PATENT-4,335,503	N82-32373*	c 08	NASA-CASE-LAR-12468-1 US-PATENT-APPL-SN-135057 US-PATENT-CLASS-244-118.1 US-PATENT-CLASS-244-137R US-PATENT-CLASS-89-1.5G US-PATENT-4,343,447	N83-10170*	c 26	NASA-CASE-LEW-12941-1 US-PATENT-APPL-SN-210632 US-PATENT-CLASS-29-458 US-PATENT-CLASS-29-521 US-PATENT-CLASS-403-282 US-PATENT-4,349,954
N82-29710*	c 44	NASA-CASE-NPO-15269-1 US-PATENT-APPL-SN-220214 US-PATENT-CLASS-204-290F US-PATENT-CLASS-204-290R US-PATENT-CLASS-429-193 US-PATENT-CLASS-429-33 US-PATENT-CLASS-429-40 US-PATENT-4,331,742	N82-32417*	c 24	NASA-CASE-LAR-12620-1 US-PATENT-APPL-SN-072857 US-PATENT-CLASS-244-132 US-PATENT-CLASS-244-158A US-PATENT-CLASS-428-594 US-PATENT-CLASS-428-604 US-PATENT-CLASS-428-607 US-PATENT-CLASS-428-608 US-PATENT-4,344,591	N83-10345*	c 33	NASA-CASE-MFS-25208-1 US-PATENT-APPL-SN-280154 US-PATENT-CLASS-318-803 US-PATENT-CLASS-363-87 US-PATENT-4,351,022
N82-29862*	c 52	NASA-CASE-LAR-12471-1 US-PATENT-APPL-SN-178193 US-PATENT-CLASS-128-62A US-PATENT-CLASS-433-118 US-PATENT-CLASS-433-125 US-PATENT-CLASS-433-86 US-PATENT-4,331,422	N82-32659*	c 35	NASA-CASE-GSC-12587-1 US-PATENT-APPL-SN-173524 US-PATENT-CLASS-250-369 US-PATENT-4,345,153	N83-10417*	c 36	NASA-CASE-NPO-15021-1 US-PATENT-APPL-SN-130496 US-PATENT-CLASS-372-56 US-PATENT-CLASS-372-59 US-PATENT-CLASS-372-60 US-PATENT-4,347,613
			N82-32712*	c 36	NASA-CASE-LAR-12328-1 US-PATENT-APPL-SN-073477 US-PATENT-CLASS-350-453 US-PATENT-CLASS-356-28.5 US-PATENT-4,346,990	N83-10494*	c 44	NASA-CASE-LEW-13131-1 US-PATENT-APPL-SN-246772 US-PATENT-CLASS-204-56R US-PATENT-4,350,574
			N82-32730*	c 37	NASA-CASE-GSC-12584-1 US-PATENT-APPL-SN-182879 US-PATENT-CLASS-125-23R US-PATENT-CLASS-225-103 US-PATENT-4,343,287	N83-10501*	c 44	NASA-CASE-NPO-14369-1 US-PATENT-APPL-SN-126063 US-PATENT-CLASS-422-200 US-PATENT-CLASS-422-202 US-PATENT-CLASS-422-224 US-PATENT-CLASS-55-204 US-PATENT-4,343,772
			N82-32731*	c 37	NASA-CASE-MFS-23846-1 US-PATENT-APPL-SN-168944 US-PATENT-CLASS-294-116 US-PATENT-CLASS-414-222 US-PATENT-CLASS-414-226 US-PATENT-CLASS-414-739 US-PATENT-4,343,584	N83-10900*	c 74	NASA-CASE-GSC-12608-1 US-PATENT-APPL-SN-195228 US-PATENT-CLASS-350-170 US-PATENT-CLASS-350-286

N83-13171*	c 24	US-PATENT-4,350,410	N83-18975*	c 32	US-PATENT-CLASS-428-902	N83-20996*	c 18	US-PATENT-CLASS-339-3R
		NASA-CASE-MS-18737-1			US-PATENT-CLASS-428-913			US-PATENT-CLASS-339-5R
		US-PATENT-APPL-SN-266256			US-PATENT-CLASS-428-920			US-PATENT-CLASS-343-DIG2
		US-PATENT-CLASS-427-379			US-PATENT-4,373,003			US-PATENT-4,377,266
		US-PATENT-CLASS-427-384			NASA-CASE-NPO-14998-1			NASA-CASE-LEW-13269-1
N83-13172*	c 24	US-PATENT-CLASS-427-387	N83-18996*	c 33	US-PATENT-APPL-SN-195547	N83-21311*	c 35	US-PATENT-APPL-SN-242795
		US-PATENT-CLASS-428-218			US-PATENT-CLASS-250-203R			US-PATENT-CLASS-415-174
		US-PATENT-4,358,486			US-PATENT-CLASS-343-100CL			US-PATENT-CLASS-415-197
		NASA-CASE-MS-18736-1			US-PATENT-CLASS-343-5CM			US-PATENT-4,377,371
		US-PATENT-APPL-SN-266254			US-PATENT-CLASS-364-822			NASA-CASE-LAR-12469-1
N83-13187*	c 25	US-PATENT-CLASS-244-158A	N83-19015*	c 34	US-PATENT-CLASS-364-861	N83-21503*	c 44	US-PATENT-APPL-SN-195223
		US-PATENT-CLASS-427-140			US-PATENT-4,371,946			US-PATENT-CLASS-250-338
		US-PATENT-CLASS-427-292			NASA-CASE-NPO-14567-1			US-PATENT-CLASS-250-372
		US-PATENT-CLASS-427-302			US-PATENT-APPL-SN-038550			US-PATENT-CLASS-250-474.1
		US-PATENT-CLASS-427-379			US-PATENT-APPL-SN-180230			US-PATENT-CLASS-356-51
N83-13188*	c 25	US-PATENT-CLASS-427-384	N83-19091*	c 37	US-PATENT-CLASS-250-311	N83-21504*	c 44	US-PATENT-4,372,680
		US-PATENT-CLASS-427-387			US-PATENT-CLASS-324-73R			NASA-CASE-MS-18723-1
		US-PATENT-CLASS-428-63			US-PATENT-CLASS-356-394			US-PATENT-APPL-SN-234223
		US-PATENT-4,358,480			US-PATENT-4,358,732			US-PATENT-CLASS-73-818
		NASA-CASE-MFS-25306-1			NASA-CASE-MFS-25282-1			US-PATENT-4,377,089
N83-13323*	c 32	US-PATENT-APPL-SN-309293	N83-19596*	c 74	US-PATENT-APPL-SN-263828	N83-21949*	c 74	NASA-CASE-LAR-12458-1
		US-PATENT-CLASS-204-280R			US-PATENT-CLASS-378-2			US-PATENT-APPL-SN-274705
		US-PATENT-CLASS-204-299R			US-PATENT-CLASS-378-43			US-PATENT-CLASS-73-147
		US-PATENT-4,358,358			US-PATENT-4,370,750			US-PATENT-4,372,158
		NASA-CASE-KSC-11025-1			NASA-CASE-LAR-12361-1			NASA-CASE-LAR-12720-1
N83-13579*	c 44	US-PATENT-APPL-SN-061327	N83-19597*	c 74	US-PATENT-APPL-SN-182880	N83-25217*	c 45	US-PATENT-APPL-SN-274706
		US-PATENT-CLASS-371-6			US-PATENT CLASS 411:353			US-PATENT-CLASS-73-147
		US-PATENT-4,358,846			US-PATENT-CLASS-411-517			US-PATENT-4,372,159
		NASA-CASE-LEW-13620-1			US-PATENT-4,371,301			NASA-CASE-LEW-13107-1
		US-PATENT-APPL-SN-242796			NASA-CASE-LEW-12253-1			US-PATENT-APPL-SN-272407
N83-13978*	c 74	US-PATENT-CLASS-136-256	N83-19900*	c 27	US-PATENT-APPL-SN-243682	N83-25346*	c 52	US-PATENT-CLASS-604-280
		US-PATENT-CLASS-136-259			US-PATENT-CLASS-165-104.26			US-PATENT-CLASS-604-8
		US-PATENT-CLASS-29-572			US-PATENT-CLASS-165-134R			US-PATENT-4,377,169
		US-PATENT-CLASS-357-30			US-PATENT-CLASS-29-157.3H			NASA-CASE-ARC-11354-1
		US-PATENT-CLASS-427-88			US-PATENT-4,372,377			US-PATENT-APPL-SN-282192
N83-14692*	c 44	US-PATENT-CLASS-427-89	N83-19947*	c 31	US-PATENT-CLASS-250-227	N83-25378*	c 60	US-PATENT-CLASS-356-357
		US-PATENT-CLASS-427-90			US-PATENT-CLASS-250-332			US-PATENT-CLASS-73-147
		US-PATENT-CLASS-427-91			US-PATENT-CLASS-250-340			US-PATENT-4,377,343
		US-PATENT-4,335,196			US-PATENT-CLASS-250-350			NASA-CASE-NPO-16135-1
		NASA-CASE-ARC-11311-1			US-PATENT-CLASS-250-351			US-PATENT-APPL-SN-470114
N83-14693*	c 44	US-PATENT-CLASS-427-91	N83-19968*	c 32	US-PATENT-CLASS-350-353	N83-25789*	c 24	NASA-CASE-LAR-12363-2
		NASA-CASE-ARC-11311-1			US-PATENT-4,262,198			US-PATENT-APPL-SN-377892
		US-PATENT-APPL-SN-219640			US-PATENT-CLASS-262,198			US-PATENT-CLASS-250-388
		US-PATENT-CLASS-350-287			NASA-CASE-FRC-11065-1			US-PATENT-4,379,970
		US-PATENT-CLASS-350-486			US-PATENT-APPL-SN-248744			NASA-CASE-MFS-25509-1
N83-14693*	c 44	US-PATENT-4,355,870	N83-19947*	c 31	US-PATENT-CASE-244-121	N83-25346*	c 52	US-PATENT-APPL-SN-297486
		NASA-CASE-LEW-12892-1			US-PATENT-CASE-244-129.4			US-PATENT-CLASS-156-DIG.62
		US-PATENT-APPL-SN-264380			US-PATENT-CASE-292-254			US-PATENT-CLASS-34-57A
		US-PATENT-CLASS-136-255			US-PATENT-4,375,281			US-PATENT-CLASS-432-227
		US-PATENT-CLASS-136-256			NASA-CASE-NPO-14857-1			US-PATENT-CLASS-432-58
N83-16626*	c 33	US-PATENT-CLASS-136-259	N83-19947*	c 31	US-PATENT-CLASS-524-437	N83-25346*	c 52	US-PATENT-4,378,209
		US-PATENT-4,360,701			US-PATENT-CLASS-524-503			NASA-CASE-NPO-15197-1
		NASA-CASE-MS-18794-1			US-PATENT-CLASS-524-564			US-PATENT-APPL-SN-246777
		US-PATENT-APPL-SN-238785			US-PATENT-CLASS-524-786			US-PATENT-CLASS-220-335
		US-PATENT-CLASS-417-399			US-PATENT-CLASS-524-786			US-PATENT-CLASS-73-863.31
N83-16626*	c 33	US-PATENT-CLASS-74-110	N83-19947*	c 31	US-PATENT-4,373,039	N83-25346*	c 52	US-PATENT-CLASS-73-863.83
		US-PATENT-4,360,325			NASA-CASE-NPO-15789-1			US-PATENT-4,377,949
		NASA-CASE-LAR-12772-1			US-PATENT-APPL-SN-15789-1			US-PATENT-APPL-SN-263957
		US-PATENT-APPL-SN-199767			US-PATENT-APPL-SN-322316			US-PATENT-CLASS-128-303B
		US-PATENT-CLASS-73-579			US-PATENT-CLASS-204-129.55			US-PATENT-CLASS-128-774
N83-16633* #	c 33	US-PATENT-CLASS-73-597	N83-19968*	c 32	US-PATENT-CLASS-204-129.75	N83-25378*	c 60	US-PATENT-CLASS-128-782
		US-PATENT-CLASS-73-629			US-PATENT-4,375,396			US-PATENT-4,378,813
		US-PATENT-CLASS-73-761			NASA-CASE-NPO-14035-1			NASA-CASE-GSC-12223-1
		US-PATENT-CLASS-73-761			US-PATENT-APPL-SN-858767			US-PATENT-APPL-SN-041143
		US-PATENT-4,363,242			US-PATENT-CLASS-343-100CL			US-PATENT-CLASS-364-200
N83-17045*	c 51	US-PATENT-CLASS-343-9PS	N83-20154* #	c 37	US-PATENT-CLASS-343-5CM	N83-25789*	c 24	US-PATENT-4,380,046
		US-PATENT-4,371,873			US-PATENT-CLASS-343-9PS			NASA-CASE-ARC-11261-1
		NASA-CASE-MFS-25807			US-PATENT-4,371,873			US-PATENT-APPL-SN-282129
		US-PATENT-APPL-SN-460733			NASA-CASE-MFS-25807			US-PATENT-CLASS-423-447.2
		US-PATENT-APPL-SN-280153			US-PATENT-APPL-SN-460733			US-PATENT-CLASS-423-447.6
N83-17235*	c 71	US-PATENT-CLASS-47-58	N83-20280*	c 39	US-PATENT-CLASS-18929-1	N83-26078*	c 37	US-PATENT-CLASS-423-447.7
		US-PATENT-CLASS-71-98			US-PATENT-APPL-SN-198093			US-PATENT-CLASS-423-447.7
		US-PATENT-4,363,188			US-PATENT-CLASS-128-782			US-PATENT-4,385,043
		NASA-CASE-LAR-12883-1			US-PATENT-CLASS-358-105			NASA-CASE-GSC-12643-1
		US-PATENT-APPL-SN-267935			US-PATENT-CLASS-364-413			US-PATENT-APPL-SN-238786
N83-17305*	c 74	US-PATENT-CLASS-73-147	N83-20789*	c 76	US-PATENT-CLASS-364-522	N83-27058*	c 31	US-PATENT-CLASS-417-15
		US-PATENT-4,363,237			US-PATENT-CLASS-364-559			US-PATENT-CLASS-47-26
		NASA-CASE-MFS-25312-1			US-PATENT-CLASS-73-379			US-PATENT-4,381,174
		US-PATENT-APPL-SN-187106			US-PATENT-4,375,674			NASA-CASE-GSC-12636-1
		US-PATENT-CLASS-350-171			NASA-CASE-NPO-15625-1			US-PATENT-APPL-SN-173520
N83-17588* #	c 20	US-PATENT-CLASS-350-171	N83-20789*	c 76	US-PATENT-APPL-SN-325933	N83-27085*	c 32	US-PATENT-CLASS-125-20
		US-PATENT-4,362,361			US-PATENT-CLASS-148-173			US-PATENT-CLASS-408-1R
		NASA-CASE-MFS-25843-1			US-PATENT-CLASS-148-175			US-PATENT-CLASS-408-61
		US-PATENT-APPL-SN-444125			US-PATENT-CLASS-156-608			US-PATENT-CLASS-409-131
		NASA-CASE-LEW-13609-1			US-PATENT-CLASS-156-624			US-PATENT-4,383,785
N83-17628* #	c 25	US-PATENT-CLASS-452465	N83-20944*	c 07	US-PATENT-CLASS-156-635	N83-27085*	c 32	NASA-CASE-NPO-15401-1
		US-PATENT-CLASS-18832-1			US-PATENT-CLASS-156-654			US-PATENT-APPL-SN-259210
		US-PATENT-APPL-SN-365950			US-PATENT-CLASS-156-662			US-PATENT-CLASS-333-22F
		US-PATENT-CLASS-428-241			US-PATENT-4,373,989			US-PATENT-CLASS-333-254
		US-PATENT-CLASS-428-244			NASA-CASE-MFS-23981-1			US-PATENT-4,382,239
N83-18908*	c 27	US-PATENT-CLASS-428-245	N83-20944*	c 07	US-PATENT-APPL-SN-231543	N83-27126*	c 33	NASA-CASE-NPO-15358-1
		US-PATENT-CLASS-428-260			US-PATENT-CLASS-244-159			US-PATENT-APPL-SN-219968
		US-PATENT-CLASS-428-331			US-PATENT-CLASS-244-173			US-PATENT-CLASS-323-269
		US-PATENT-CLASS-428-368			US-PATENT-CLASS-322-2R			US-PATENT-CLASS-323-303



N83-27144*	c 34	US-PATENT-4,382,224 NASA-CASE-LEW-13174-1 US-PATENT-APPL-SN-200634 US-PATENT-CLASS-415-115 US-PATENT-CLASS-416-1 US-PATENT-CLASS-416-97R US-PATENT-4,384,823	N83-29032*	c 74	US-PATENT-CLASS-435-39 US-PATENT-CLASS-435-807 US-PATENT-4,386,157 NASA-CASE-KSC-11104-1 US-PATENT-APPL-SN-153245 US-PATENT-CLASS-350-96.16 US-PATENT-CLASS-455-612 US-PATENT-4,381,881	N83-31895*	c 31	US-PATENT-CLASS-428-623 US-PATENT-CLASS-428-633 US-PATENT-CLASS-428-678 US-PATENT-4,335,190 NASA-CASE-MFS-25134-1 US-PATENT-APPL-SN-195226 US-PATENT-CLASS-24-214 US-PATENT-CLASS-244-159 US-PATENT-4,381,583
N83-27184*	c 35	US-PATENT-APPL-SN-207135 US-PATENT-CLASS-250-282 US-PATENT-CLASS-250-288 US-PATENT-CLASS-250-423 US-PATENT-4,383,171	N83-29303*	c 18	NASA-CASE-MFS-25403-1 US-PATENT-APPL-SN-248745 US-PATENT-CLASS-244-115 US-PATENT-CLASS-244-161 US-PATENT-CLASS-269-152 US-PATENT-CLASS-269-242 US-PATENT-CLASS-269-244 US-PATENT-CLASS-294-86R US-PATENT-4,391,423	N83-31896*	c 31	NASA-CASE-NPO-14596-3 US-PATENT-APPL-SN-303671 US-PATENT-CLASS-264-5 US-PATENT-CLASS-264-9 US-PATENT-CLASS-425-6 US-PATENT-CLASS-65-142 US-PATENT-CLASS-65-214 US-PATENT-CLASS-65-222 US-PATENT-4,344,787
N83-27344*	c 44	NASA-CASE-LEW-13246-1 US-PATENT-APPL-SN-266255 US-PATENT-CLASS-429-105 US-PATENT-CLASS-429-107 US-PATENT-CLASS-429-109 US-PATENT-CLASS-429-34 US-PATENT-CLASS-429-40 US-PATENT-4,382,116	N83-29324*	c 25	NASA-CASE-GSC-12770-1 US-PATENT-APPL-SN-301075 US-PATENT-CLASS-423-648R US-PATENT-CLASS-423-649 US-PATENT-4,393,039	N83-31897*	c 31	NASA-CASE-NPO-15251-1 US-PATENT-APPL-SN-229239 US-PATENT-CLASS-337-14 US-PATENT-CLASS-62-48 US-PATENT-CLASS-62-514R US-PATENT-4,366,680
N83-27569*	c 51	NASA-CASE-GSC-12158-1 US-PATENT-APPL-SN-688434 US-PATENT-CLASS-422-52 US-PATENT-CLASS-435-289 US-PATENT-CLASS-435-291 US-PATENT-CLASS-435-3 US-PATENT-CLASS-435-34 US-PATENT-CLASS-435-38 US-PATENT-CLASS-435-39 US-PATENT-CLASS-435-8 US-PATENT-4,385,113	N83-29388*	c 27	NASA-CASE-LEW-13132-1 US-PATENT-APPL-SN-272152 US-PATENT-CLASS-204-35N US-PATENT-CLASS-204-37R US-PATENT-CLASS-204-56R US-PATENT-4,392,920	N83-31918*	c 32	NASA-CASE-NPO-14525-2 US-PATENT-APPL-SN-165910 US-PATENT-CLASS-343-5CM US-PATENT-CLASS-343-9PS US-PATENT-CLASS-367-88 US-PATENT-4,355,311
N83-27577*	c 52	NASA-CASE-MSC-18761-1 US-PATENT-APPL-SN-254688 US-PATENT-CLASS-128-DIG.13 US-PATENT-CLASS-604-114 US-PATENT-CLASS-604-151 US-PATENT-CLASS-73-204 US-PATENT-4,384,578	N83-29392* #	c 27	NASA-CASE-LEW-12876-2 US-PATENT-APPL-SN-393583 US-PATENT-CLASS-12508-3 US-PATENT-APPL-SN-235868 US-PATENT-CLASS-62-3 US-PATENT-4,392,356	N83-31952*	c 33	NASA-CASE-LEW-13429-1 US-PATENT-APPL-SN-220212 US-PATENT-CLASS-315-3 US-PATENT-CLASS-315-4 US-PATENT-CLASS-315-5 US-PATENT-CLASS-315-5.35 US-PATENT-CLASS-315-5.38 US-PATENT-4,395,656
N83-27578*	c 52	NASA-CASE-MSC-18759-1 US-PATENT-APPL-SN-233270 US-PATENT-CLASS-128-660 US-PATENT-CLASS-128-663 US-PATENT-CLASS-73-597 US-PATENT-4,383,533	N83-29651*	c 35	US-PATENT-4,389,904 NASA-CASE-LAR-12531-1 US-PATENT-APPL-SN-282191 US-PATENT-CASE-368-10 US-PATENT-CASE-368-118 US-PATENT-CASE-368-119 US-PATENT-CASE-368-120 US-PATENT-CASE-368-6 US-PATENT-CASE-368-9 US-PATENT-4,392,749	N83-31953*	c 33	NASA-CASE-MFS-25215-1 US-PATENT-APPL-SN-291131 US-PATENT-CLASS-318-800 US-PATENT-CLASS-318-803 US-PATENT-CLASS-318-809 US-PATENT-4,394,610
N83-27975*	c 05	NASA-CASE-FRC-11072-1 US-PATENT-APPL-SN-230613 US-PATENT-CASE-179-146-R US-PATENT-CASE-179-179 US-PATENT-CASE-367-906 US-PATENT-4,388,502	N83-29652*	c 35	NASA-CASE-MSC-18936-1 US-PATENT-APPL-SN-325082 US-PATENT-CLASS-55-194 US-PATENT-CLASS-55-202 US-PATENT-4,392,874	N83-31954*	c 33	NASA-CASE-NPO-14940-1 US-PATENT-APPL-SN-135038 US-PATENT-CLASS-324-466 US-PATENT-CLASS-73-861.05 US-PATENT-4,338,568
N83-28064*	c 18	NASA-CASE-GSC-12551-1 US-PATENT-APPL-SN-182881 US-PATENT-CLASS-244-169 US-PATENT-CLASS-244-170 US-PATENT-4,386,750	N83-29680*	c 36	NASA-CASE-MFS-25315-1 US-PATENT-APPL-SN-224232 US-PATENT-CASE-356-129 US-PATENT-4,391,518	N83-31993*	c 34	NASA-CASE-NPO-15400-1 US-PATENT-APPL-SN-246774 US-PATENT-CLASS-250-573 US-PATENT-CLASS-73-64.4 US-PATENT-4,391,129
N83-28240*	c 27	NASA-CASE-LAR-12775-1 US-PATENT-APPL-SN-308201 US-PATENT-CLASS-524-104 US-PATENT-CLASS-524-173 US-PATENT-CLASS-524-233 US-PATENT-CLASS-524-726 US-PATENT-CLASS-525-181 US-PATENT-CLASS-525-183 US-PATENT-CLASS-525-184 US-PATENT-CLASS-525-474 US-PATENT-4,389,504	N83-29681* #	c 36	NASA-CASE-GSC-12609-2 US-PATENT-APPL-SN-481020	N83-32026*	c 35	NASA-CASE-LAR-12728-1 US-PATENT-APPL-SN-408575 US-PATENT-CLASS-248-636 US-PATENT-CLASS-248-638 US-PATENT-CLASS-62-295 US-PATENT-CLASS-62-514 R US-PATENT-4,394,819
N83-28319*	c 33	NASA-CASE-MFS-25302-1 US-PATENT-APPL-SN-243683 US-PATENT-CLASS-322-29 US-PATENT-CLASS-322-35 US-PATENT-CLASS-322-47 US-PATENT-CLASS-322-95 US-PATENT-4,388,585	N83-29783* #	c 43	NASA-CASE-LAR-13053-1 US-PATENT-APPL-SN-508372	N83-32067*	c 37	NASA-CASE-GSC-12517-1 US-PATENT-APPL-SN-214361 US-PATENT-CLASS-104-282 US-PATENT-CLASS-104-290 US-PATENT-CLASS-308-10 US-PATENT-CLASS-310-12 US-PATENT-4,387,935
N83-28356*	c 34	NASA-CASE-GSC-12553-1 US-PATENT-APPL-SN-106192 US-PATENT-CLASS-165-185 US-PATENT-CLASS-165-32 US-PATENT-CLASS-165-76 US-PATENT-4,388,965	N83-29991* #	c 52	NASA-CASE-ARC-11264-2 US-PATENT-APPL-SN-465370	N83-32081*	c 39	NASA-CASE-LAR-12602-1 US-PATENT-APPL-SN-210506 US-PATENT-CLASS-374-51 US-PATENT-CLASS-73-818 US-PATENT-CLASS-73-822 US-PATENT-CLASS-73-856 US-PATENT-CLASS-73-860 US-PATENT-4,393,716
N83-28573*	c 44	NASA-CASE-LAR-12495-1 US-PATENT-APPL-SN-263830 US-PATENT-CLASS-310-11 US-PATENT-4,388,542	N83-31603*	c 07	NASA-CASE-LEW-14586-1 US-PATENT-APPL-SN-163122 US-PATENT-CLASS-415-1 US-PATENT-CLASS-415-175 US-PATENT-CLASS-415-178 US-PATENT-CLASS-415-47 US-PATENT-4,338,061	N83-32175*	c 44	NASA-CASE-LEW-12443-1 US-PATENT-APPL-SN-235797 US-PATENT-CLASS-310-306 US-PATENT-4,373,142
N83-28574*	c 44	NASA-CASE-GSC-12697-1 US-PATENT-APPL-SN-308204 US-PATENT-CLASS-308-10 US-PATENT-CLASS-310-15 US-PATENT-CLASS-417-417 US-PATENT-CLASS-62-6 US-PATENT-4,389,849	N83-31743*	c 25	NASA-CASE-NPO-15304-1 US-PATENT-APPL-SN-315587 US-PATENT-CLASS-201-17 US-PATENT-CLASS-44-1SR US-PATENT-4,391,609	N83-32176*	c 44	NASA-CASE-LEW-13171-2 US-PATENT-APPL-SN-333537 US-PATENT-CLASS-29-623.5 US-PATENT-CLASS-429-144 US-PATENT-CLASS-429-251 US-PATENT-CLASS-429-254 US-PATENT-4,371,596
N83-28849*	c 51	NASA-CASE-ARC-11322-1 US-PATENT-APPL-SN-315278 US-PATENT-CLASS-435-3 US-PATENT-CLASS-435-34 US-PATENT-CLASS-435-38	N83-31854*	c 27	NASA-CASE-ARC-11368-1 US-PATENT-APPL-SN-288267 US-PATENT-CLASS-548-413 US-PATENT-CLASS-548-415 US-PATENT-4,395,557	N83-32177*	c 44	NASA-CASE-LEW-13401-2 US-PATENT-APPL-SN-359366 US-PATENT-CLASS-136-249 US-PATENT-CLASS-357-30 US-PATENT-4,376,872
			N83-31855*	c 27	NASA-CASE-LEW-1335901 US-PATENT-APPL-SN-229233 US-PATENT-CLASS-427-219.2 US-PATENT-CLASS-427-34 US-PATENT-CLASS-427-405 US-PATENT-CLASS-427-423	N83-32232*	c 47	NASA-CASE-NPO-14936-1 US-PATENT-APPL-SN-163837 US-PATENT-CLASS-250-203R US-PATENT-CLASS-356-222

N83-32342*	c 60	US-PATENT-4,355,896	N83-34189*	c 33	US-PATENT-4,385,949	N83-35307*	c 34	US-PATENT-CLASS-318-685
		NASA-CASE-NPO-15342-1			NASA-CASE-GSC-12566-1			US-PATENT-CLASS-318-798
		US-PATENT-APPL-SN-258623			US-PATENT-APPL-SN-276748			US-PATENT-CLASS-318-806
		US-PATENT-CLASS-364-200			US-PATENT-CLASS-315-208			US-PATENT-4,401,934
N83-32515*	c 71	US-PATENT-CLASS-364-900	N83-34190*	c 33	US-PATENT-CLASS-315-224	N83-35338*	c 35	US-PATENT-CLASS-12812-1
		US-PATENT-4,394,726			US-PATENT-CLASS-315-225			US-PATENT-APPL-SN-434674
		NASA-CASE-NPO-15453-1			US-PATENT-CLASS-315-237			US-PATENT-CLASS-165-104.26
		US-PATENT-APPL-SN-314929			US-PATENT-CLASS-315-241R			US-PATENT-CLASS-165-32
N83-32516*	c 71	US-PATENT-CLASS-60-721	N83-34190*	c 33	US-PATENT-CLASS-372-25	N83-35338*	c 35	US-PATENT-4,402,358
		US-PATENT-CLASS-73-505			US-PATENT-4,398,129			NASA-CASE-LEW-13934-1
		US-PATENT-4,393,708			NASA-CASE-MFS-25607-1			US-PATENT-APPL-SN-212949
		NASA-CASE-NPO-15522-1			US-PATENT-APPL-SN-325886			US-PATENT-CLASS-228-103
N83-32577*	c 74	US-PATENT-APPL-SN-303672	N83-34191*	c 33	US-PATENT-CLASS-361-90	N83-35350*	c 36	US-PATENT-CLASS-228-193
		US-PATENT-CLASS-60-721			US-PATENT-CLASS-318-729			US-PATENT-CLASS-228-263.18
		US-PATENT-CLASS-73-505			US-PATENT-CLASS-318-798			US-PATENT-CLASS-415-118
		US-PATENT-4,393,706			US-PATENT-CLASS-318-806			US-PATENT-4,402,447
N83-33882*	c 06	US-PATENT-CLASS-363-54	N83-34221*	c 34	US-PATENT-CLASS-361-100	N83-35781*	c 71	NASA-CASE-NPO-15201-1
		US-PATENT-4,400,657			US-PATENT-CLASS-363-54			US-PATENT-APPL-SN-246778
		NASA-CASE-GSC-12614-1			US-PATENT-4,400,657			US-PATENT-CLASS-330-4
		US-PATENT-APPL-SN-195227			NASA-CASE-GSC-12646-1			US-PATENT-CLASS-332-7.5
N83-33882*	c 06	US-PATENT-CLASS-356-353	N83-34221*	c 34	US-PATENT-APPL-SN-284290	N83-35781*	c 71	US-PATENT-CLASS-333-24.2
		US-PATENT-CLASS-356-363			US-PATENT-CLASS-330-289			US-PATENT-4,399,415
		US-PATENT-4,395,123			US-PATENT-CLASS-330-310			NASA-CASE-NPO-15334-1
		NASA-CASE-FRC-11043-1			US-PATENT-4,401,953			US-PATENT-APPL-SN-341406
N83-33884*	c 07	US-PATENT-CLASS-210-748	N83-34272*	c 35	US-PATENT-APPL-SN-145208	N83-35888*	c 76	US-PATENT-CLASS-210-748
		US-PATENT-CLASS-252-361			US-PATENT-CLASS-165-12			US-PATENT-CLASS-252-361
		US-PATENT-CLASS-366-114			US-PATENT-CLASS-165-61			US-PATENT-CLASS-366-114
		US-PATENT-CLASS-55-15			US-PATENT-CLASS-165-80E			US-PATENT-CLASS-55-15
N83-33950*	c 24	US-PATENT-CLASS-55-277	N83-34304*	c 36	US-PATENT-CLASS-374-46	N83-35992*	c 01	US-PATENT-CLASS-55-277
		US-PATENT-CLASS-55-38			US-PATENT-CLASS-62-514R			US-PATENT-CLASS-55-38
		US-PATENT-CLASS-55-52			US-PATENT-CLASS-62-62			US-PATENT-CLASS-55-52
		US-PATENT-CLASS-65-134			US-PATENT-CLASS-346,754			US-PATENT-CLASS-65-134
N83-33977*	c 25	US-PATENT-4,398,925	N83-34323*	c 37	US-PATENT-4,346,754	N83-36029*	c 07	US-PATENT-4,398,925
		NASA-CASE-NPO-14987-1			NASA-CASE-ARC-11317-1			NASA-CASE-NPO-15530-1
		US-PATENT-APPL-SN-164-584			US-PATENT-APPL-SN-229231			US-PATENT-APPL-SN-364092
		US-PATENT-CLASS-427-215			US-PATENT-CLASS-340-518			US-PATENT-CLASS-156-DIG.6
N83-34039*	c 27	US-PATENT-CLASS-156-DIG.73	N83-34448*	c 44	US-PATENT-CLASS-340-566	N83-36220*	c 27	US-PATENT-CLASS-156-DIG.73
		US-PATENT-CLASS-156-608			US-PATENT-4,374,378			US-PATENT-CLASS-156-608
		US-PATENT-CLASS-156-608			NASA-CASE-ARC-11312-1			US-PATENT-CLASS-156-608
		US-PATENT-4,401,505			US-PATENT-APPL-SN-234224			US-PATENT-CLASS-156-608
N83-34040*	c 27	US-PATENT-CLASS-89-1B	N83-34449*	c 44	US-PATENT-CLASS-356-1	N83-36355*	c 33	US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-CLASS-356-4			US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-CLASS-358-104			US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-CLASS-358-109			US-PATENT-CLASS-89-1B
N83-34041*	c 27	US-PATENT-CLASS-89-1B	N83-34796*	c 76	US-PATENT-CLASS-434-38	N83-36356*	c 33	US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-CLASS-434.4			US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-4,391,514			US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			NASA-CASE-GSC-12726-1			US-PATENT-CLASS-89-1B
N83-34043*	c 27	US-PATENT-CLASS-89-1B	N83-35176*	c 31	US-PATENT-CLASS-308-10	N83-36482*	c 37	US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-APPL-SN-364093			US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-CLASS-308-10			US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-4,381,375			US-PATENT-CLASS-89-1B
N83-34073*	c 31	US-PATENT-CLASS-89-1B	N83-35717*	c 31	US-PATENT-CLASS-358-109	N83-36483*	c 37	US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-CLASS-434-38			US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-CLASS-434.4			US-PATENT-CLASS-89-1B
		US-PATENT-CLASS-89-1B			US-PATENT-4,391,514			US-PATENT-CLASS-89-1B

N83-36846*	c 71	US-PATENT-4,406,256 NASA-CASE-NPO-15435-1 US-PATENT-APPL-SN-272837 US-PATENT-CLASS-308-10 US-PATENT-CLASS-73-505 US-PATENT-4,402,221	N84-12443*	c 35	US-PATENT-4,413,784 NASA-CASE-FRC-11068-1 US-PATENT-APPL-SN-322314 US-PATENT-CLASS-156-215 US-PATENT-CLASS-156-230 US-PATENT-CLASS-156-235 US-PATENT-CLASS-156-294 US-PATENT-CLASS-156-423 US-PATENT-CLASS-156-540 US-PATENT-CLASS-156-71 US-PATENT-CLASS-338-2 US-PATENT-4,407,686	N84-14423*	c 33	NASA-CASE-MFS-25211-2 US-PATENT-APPL-SN-432057 US-PATENT-CLASS-339-258RR US-PATENT-CLASS-339-262RR US-PATENT-CLASS-339-64M US-PATENT-4,421,371
N83-36898*	c 74	NASA-CASE-GSC-12683-1 US-PATENT-APPL-SN-333535 US-PATENT-CLASS-350-173 US-PATENT-CLASS-350-445 US-PATENT-4,407,563	N84-12444*	c 35	NASA-CASE-LAR-12706-1 US-PATENT-APPL-SN-210498 US-PATENT-CLASS-324-250 US-PATENT-CLASS-328-230 US-PATENT-CLASS-372-74 US-PATENT-4,414,509	N84-14424*	c 33	NASA-CASE-MFS-25477-1 US-PATENT-APPL-SN-243683 US-PATENT-APPL-SN-297524 US-PATENT-APPL-SN-350472 US-PATENT-CLASS-318-729 US-PATENT-CLASS-318-798 US-PATENT-CLASS-318-806 US-PATENT-4,417,190
N84-11136*	c 02	NASA-CASE-LAR-12843-1 US-PATENT-APPL-SN-392096 US-PATENT-CLASS-244-35A US-PATENT-CLASS-244-35R US-PATENT-CLASS-416-223R US-PATENT-CLASS-416-242 US-PATENT-4,412,664	N84-12445*	c 35	NASA-CASE-LAR-12882-1 US-PATENT-APPL-SN-267179 US-PATENT-CLASS-364-415 US-PATENT-CLASS-73-646 US-PATENT-CLASS-73-658 US-PATENT-4,413,522	N84-14461*	c 34	NASA-CASE-GSC-12771-1 US-PATENT-APPL-SN-434672 US-PATENT-CLASS-165-32 US-PATENT-CLASS-165-41 US-PATENT-CLASS-165-96 US-PATENT-4,420,035
N84-11213*	c 24	NASA-CASE-ARC-11418-1 US-PATENT-APPL-SN-452464 US-PATENT-CLASS-523-435 US-PATENT-CLASS-523-456 US-PATENT-CLASS-528-110 US-PATENT-CLASS-528-361 US-PATENT-4,410,682	N84-12491*	c 37	NASA-CASE-GSC-12619-1 US-PATENT-APPL-SN-225499 US-PATENT-CLASS-101-407BP US-PATENT-CLASS-269-3 US-PATENT-4,393,777	N84-14491*	c 35	NASA-CASE-LAR-12686-1 US-PATENT-APPL-SN-249304 US-PATENT-CLASS-364-557 US-PATENT-CLASS-364-558 US-PATENT-CLASS-364-571 US-PATENT-CLASS-73-714 US-PATENT-4,399,515
N84-11214*	c 24	NASA-CASE-LAR-12807-1 US-PATENT-APPL-SN-280155 US-PATENT-CLASS-228-157 US-PATENT-CLASS-228-181 US-PATENT-CLASS-228-212 US-PATENT-CLASS-244-119 US-PATENT-CLASS-244-123 US-PATENT-CLASS-428-593 US-PATENT-CLASS-52-806 US-PATENT-CLASS-52-808 US-PATENT-4,411,380	N84-12492*	c 37	NASA-CASE-GSC-12622-1 US-PATENT-APPL-SN-243684 US-PATENT-CLASS-308-2A US-PATENT-4,405,184	N84-14509*	c 36	NASA-CASE-GSC-12565-1 US-PATENT-APPL-SN-270763 US-PATENT-CLASS-350-299 US-PATENT-CLASS-356-345 US-PATENT-CLASS-372-100 US-PATENT-CLASS-372-108 US-PATENT-CLASS-372-93 US-PATENT-CLASS-372-94 US-PATENT-CLASS-372-98 US-PATENT-4,420,836
N84-11497*	c 37	NASA-CASE-MFS-25678-1 US-PATENT-APPL-SN-378533 US-PATENT-CLASS-277-116.6 US-PATENT-CLASS-277-124 US-PATENT-CLASS-277-164 US-PATENT-CLASS-277-177 US-PATENT-CLASS-277-190 US-PATENT-4,410,189	N84-12493*	c 37	NASA-CASE-LAR-12923-1 US-PATENT-APPL-SN-383063 US-PATENT-CLASS-416-117 US-PATENT-CLASS-416-132B US-PATENT-4,415,311	N84-14583*	c 44	NASA-CASE-NPO-15100-1 US-PATENT-APPL-SN-259211 US-PATENT-CLASS-138-42 US-PATENT-CLASS-251-127 US-PATENT-4,418,722
N84-11744*	c 52	NASA-CASE-MFS-25740-1 US-PATENT-APPL-SN-371352 US-PATENT-CLASS-128-DIG.25 US-PATENT-CLASS-128-1R US-PATENT-CLASS-128-346 US-PATENT-4,408,597	N84-12654*	c 45	NASA-CASE-NSTL-10 US-PATENT-APPL-SN-335036 US-PATENT-CLASS-210-151 US-PATENT-CLASS-210-602 US-PATENT-CLASS-210-605 US-PATENT-CLASS-210-617 US-PATENT-CLASS-47-58 US-PATENT-4,415,450	N84-14873*	c 71	NASA-CASE-LAR-11903-2 US-PATENT-APPL-SN-238791 US-PATENT-APPL-SN-753971 US-PATENT-CLASS-239-265.17 US-PATENT-4,398,667
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N84-23012* #	c 43	NASA-CASE-NPO-15656-1 US-PATENT-APPL-SN-569370	N84-27787* c 18 NASA-CASE-MFS-25878-1 US-PATENT-APPL-SN-431886 US-PATENT-CLASS-244-172 US-PATENT-CLASS-244-2 US-PATENT-CLASS-244-63 US-PATENT-4,451,017	N84-28081*	c 37	NASA-CASE-NPO-14597-2 US-PATENT-APPL-SN-037194 US-PATENT-APPL-SN-401288 US-PATENT-CLASS-417-328 US-PATENT-CLASS-417-392 US-PATENT-CLASS-417-462 US-PATENT-4,449,894
N84-23018*	c 44	NASA-CASE-NPO-15496-1 US-PATENT-APPL-SN-379602 US-PATENT-CLASS-290-55 US-PATENT-CLASS-415-DIG.8 US-PATENT-CLASS-415-2R US-PATENT-CLASS-60-641.12 US-PATENT-CLASS-60-698 US-PATENT-CLASS-60-716 US-PATENT-4,433,544	N84-27829* c 24 NASA-CASE-LEW-13758-1 US-PATENT-APPL-SN-418139 US-PATENT-CLASS-73-833 US-PATENT-CLASS-73-856 US-PATENT-4,452,088	N84-28082*	c 37	NASA CASE GSC-12550-1 US-PATENT-APPL-SN-238888 US-PATENT-CLASS-73-468 US-PATENT-CLASS-74-5.5 US-PATENT-CLASS-74-573R US-PATENT-4,458,554
N84-23019*	c 44	NASA-CASE-LAR-12958-1 US-PATENT-APPL-SN-433196 US-PATENT-CLASS-104-DIG.4 US-PATENT-CLASS-204-DIG.3 US-PATENT-CLASS-204-129 US-PATENT-CLASS-204-278 US-PATENT-CLASS-204-280 US-PATENT-CLASS-423-303 US-PATENT-CLASS-429-111 US-PATENT-4,439,301	N84-27885* c 26 NASA-CASE-LEW-13639-2 US-PATENT-APPL-SN-456460 US-PATENT-CLASS-427-34 US-PATENT-CLASS-427-405 US-PATENT-CLASS-427-419.2 US-PATENT-CLASS-428-632 US-PATENT-4,451,496	N84-28083*	c 37	NASA-CASE GSC-12762-1 US-PATENT-APPL-SN-364094 US-PATENT-CLASS-269-224 US-PATENT-CLASS-269-242 US-PATENT-CLASS-269-244 US-PATENT-CLASS-269-252 US-PATENT-CLASS-269-285 US-PATENT-4,448,408
N84-23095*	c 52	NASA-CASE-LEW-13107-2 US-PATENT-APPL-SN-444124 US-PATENT-CLASS-156-643 US-PATENT-CLASS-156-644 US-PATENT-CLASS-156-668 US-PATENT-CLASS-204-192E US-PATENT-4,432,853	N84-27884* c 27 NASA-CASE-ARC-11405-1 US-PATENT-APPL-SN-415880 US-PATENT-CLASS-528-271 US-PATENT-CLASS-528-310 US-PATENT-CLASS-528-327 US-PATENT-CLASS-528-331 US-PATENT-CLASS-528-362 US-PATENT-4,450,268	N84-28084*	c 37	NASA-CASE-LAR-12644-1 US-PATENT-APPL-SN-387728 US-PATENT-CLASS-74-753 US-PATENT-CLASS-74-758 US-PATENT-CLASS-74-812 US-PATENT-4,446,757
N84-23113*	c 54	NASA-CASE-MSC-20261-2 US-PATENT-APPL-SN-393581 US-PATENT-CLASS-2-161R US-PATENT-CLASS-2-167 US-PATENT-4,433,439	N84-27885* c 27 NASA-CASE-LEW-13770-1 US-PATENT-APPL-SN-404809 US-PATENT-CLASS-526-262 US-PATENT-CLASS-528-322 US-PATENT-CLASS-528-342 US-PATENT-4,455,418	N84-28085*	c 37	NASA-CASE-LAR-12786-1 US-PATENT-APPL-SN-309292 US-PATENT-CLASS-30-180 US-PATENT-CLASS-30-188 US-PATENT-CLASS-30-228 US-PATENT-CLASS-30-249 US-PATENT-CLASS-30-272R US-PATENT-4,458,418
N84-23233*	c 71	NASA-CASE-NPO-15689-1 US-PATENT-APPL-SN-358089 US-PATENT-CLASS-310-300 US-PATENT-CLASS-318-116 US-PATENT-CLASS-60-721 US-PATENT-CLASS-73-505 US-PATENT-4,420,977	N84-27952* c 32 NASA-CASE-MSC-16170-2 US-PATENT-APPL-SN-147695 US-PATENT-APPL-SN-737975 US-PATENT-CLASS-329-124 US-PATENT-CLASS-375-120 US-PATENT-CLASS-375-77 US-PATENT-CLASS-375-81 US-PATENT-CLASS-455-202 US-PATENT-CLASS-455-208 US-PATENT-CLASS-455-260 US-PATENT-CLASS-455-265 US-PATENT-4,455,680	N84-28203*	c 44	NASA-CASE-NPO-15388-1 US-PATENT-APPL-SN-284286 US-PATENT-CLASS-126-419 US-PATENT-CLASS-126-438 US-PATENT-CLASS-126-451 US-PATENT-4,433,672
N84-23247*	c 74	NASA-CASE-NPO-15345-1 US-PATENT-APPL-SN-276749 US-PATENT-CLASS-358-125 US-PATENT-CLASS-358-213 US-PATENT-4,430,673	N84-27974* c 33 NASA-CASE-LEW-13736-1 US-PATENT-APPL-SN-434084 US-PATENT-CLASS-315-3.6 US-PATENT-CLASS-315-39.3 US-PATENT-CLASS-331-82 US-PATENT-CLASS-333-162	N84-28204*	c 44	NASA-CASE-NPO-15662-1 US-PATENT-APPL-SN-392103 US-PATENT-CLASS-126-418 US-PATENT-CLASS-126-438 US-PATENT-CLASS-126-440 US-PATENT-4,449,514
N84-23248*	c 74	NASA-CASE-GSC-12756-1 US-PATENT-APPL-SN-378535		N84-28205*	c 44	NASA-CASE-LEW-13653-1 US-PATENT-APPL-SN-352821 US-PATENT-CLASS-204-290 US-PATENT-CLASS-29-623.5 US-PATENT-CLASS-29-825

		US-PATENT-CLASS-427-113	N84-32447* #	c 25	NAS 1.71: LAR-13257-1		US-PATENT-CLASS-356-74	
		US-PATENT-CLASS-427-115			NASA-CASE-LAR-13257-1		US-PATENT-4,043,668	
		US-PATENT-CLASS-427-125			US-PATENT-APPL-SN-633178	N84-33767*	c 35	NAS 1.71: NPO-15644-1
		US-PATENT-CLASS-427-226	N84-33394*	c 03	NAS 1.71: ARC-11423-1		NASA-CASE-NPO-15644-1	
		US-PATENT-CLASS-427-372.2			NASA-CASE-ARC-11423-1		US-PATENT-APPL-SN-358088	
		US-PATENT-CLASS-427-379			US-PATENT-APPL-SN-452466		US-PATENT-CLASS-250-251	
		US-PATENT-CLASS-427-380			US-PATENT-CLASS-297-DIG.5		US-PATENT-CLASS-250-252.1	
		US-PATENT-CLASS-427-443			US-PATENT-CLASS-428-246		US-PATENT-CLASS-250-372	
		US-PATENT-CLASS-429-44			US-PATENT-CLASS-428-280		US-PATENT-4,469,942	
		US-PATENT-4,454,649			US-PATENT-CLASS-428-287	N84-33768*	c 35	NAS 1.71: MFS-25717-1
N84-28292*	c 47	NASA-CASE-LAR-12971-1			US-PATENT-CLASS-428-304.4		NASA-CASE-MFS-25717-1	
		US-PATENT-APPL-SN-444149			US-PATENT-CLASS-428-319.1		US-PATENT-APPL-SN-441897	
		US-PATENT-CLASS-250-356.1			US-PATENT-CLASS-428-423.5		US-PATENT-CLASS-175-45	
		US-PATENT-CLASS-73-189			US-PATENT-CLASS-428-71		US-PATENT-CLASS-299-1	
		US-PATENT-CLASS-73-861.71			US-PATENT-CLASS-428-76		US-PATENT-4,466,667	
		US-PATENT-4,449,400			US-PATENT-CLASS-428-921	N84-33769*	c 35	NAS 1.71: NPO-15341-1
N84-28361*	c 51	NASA-CASE-ARC-11359-1			US-PATENT-CLASS-5-459		NASA-CASE-NPO-15341-1	
		US-PATENT-APPL-SN-392092			US-PATENT-4,463,465		US-PATENT-APPL-SN-315583	
		US-PATENT-CLASS-264-41	N84-33400* #	c 05	NAS 1.71: LAR-13233-1		US-PATENT-CLASS-180-168	
		US-PATENT-CLASS-521-141			NASA-CASE-LAR-13233-1		US-PATENT-CLASS-318-587	
		US-PATENT-CLASS-521-142			US-PATENT-APPL-SN-649329		US-PATENT-CLASS-340-905	
		US-PATENT-CLASS-521-149	N84-33410*	c 07	NAS 1.71: LEW-13524-1		US-PATENT-CLASS-340-988	
		US-PATENT-4,456,708			NASA-CASE-LEW-13524-1		US-PATENT-4,472,716	
N84-28388*	c 52	NASA-CASE-LAR-12650-1			US-PATENT-APPL-SN-238257	N84-33807*	c 37	NAS 1.71: MFS-25862-2
		US-PATENT-APPL-SN-264381			US-PATENT-CLASS-415-115		NASA-CASE-MFS-25862-2	
		US-PATENT-CLASS-128-325			US-PATENT-CLASS-60-39.29		US-PATENT-APPL-SN-460509	
		US-PATENT-CLASS-128-346			US-PATENT-CLASS-60-39.83		US-PATENT-CLASS-73-12	
		US-PATENT-CLASS-24-560			US-PATENT-4,416,111		US-PATENT-CLASS-73-588	
		US-PATENT-4,416,266	N84-33450*	c 18	NAS 1.71: LAR-12884		US-PATENT-4,470,293	
N84-28389*	c 52	NASA-CASE-LAR-12650-2			NASA-CASE-LAR-12884-1	N84-33808*	c 37	NAS 1.71: LEW-12995-1
		US-PATENT-APPL-SN-264381			US-PATENT-APPL-SN-510136		NASA-CASE-LEW-12995-1	
		US-PATENT-APPL-SN-465363			US-PATENT-CLASS-428-182		US-PATENT-APPL-SN-157150	
		US-PATENT-CLASS-156-191			US-PATENT-CLASS-428-184		US-PATENT-CLASS-60-303	
		US-PATENT-CLASS-156-285			US-PATENT-CLASS-428-595		US-PATENT-CLASS-60-606	
		US-PATENT-CLASS-156-289			US-PATENT-CLASS-52-814		US-PATENT-4,449,370	
		US-PATENT-CLASS-156-382			US-PATENT-4,472,473	N84-34443*	c 06	NASA-CASE-NPO-15351-2
		US-PATENT-CLASS-29-423	N84-33555*	c 26	NAS 1.71: LEW-13639-1		US-PATENT-APPL-SN-224231	
		US-PATENT-CLASS-29-451			NASA-CASE-LEW-13639-1		US-PATENT-APPL-SN-412039	
		US-PATENT-4,447,943			US-PATENT-APPL-SN-403378		US-PATENT-CLASS-73-178-R	
N84-28484*	c 54	NASA-CASE-MSC-20261-1			US-PATENT-CLASS-416-241R		US-PATENT-4,346,595	
		US-PATENT-APPL-SN-393586			US-PATENT-CLASS-428-564		US-PATENT-4,474,062	
		US-PATENT-CLASS-2-161R			US-PATENT-CLASS-428-639	N84-34448*	c 09	NASA-CASE-LAR-12950-1
		US-PATENT-CLASS-2-164			US-PATENT-CLASS-428-678		US-PATENT-APPL-SN-481106	
		US-PATENT-CLASS-2-167			US-PATENT-4,446,199		US-PATENT-CLASS-73-147	
		US-PATENT-4,454,611	N84-33589*	c 27	NAS 1.71: NPO-15753-1		US-PATENT-4,475,385	
N84-28491*	c 60	NASA-CASE-GSC-12447-2			NASA-CASE-NPO-15753-1	N84-34571*	c 24	NAS 1.71: LAR-13230-1
		US-PATENT-APPL-SN-128230			US-PATENT-APPL-SN-342871		NASA-CASE-LAR-13230-1	
		US-PATENT-APPL-SN-501060			US-PATENT-CLASS-219-203		US-PATENT-APPL-SN-548584	
		US-PATENT-CLASS-364-900			US-PATENT-CLASS-219-219		US-PATENT-CLASS-523-454	
		US-PATENT-4,435,781			US-PATENT-CLASS-219-522		US-PATENT-CLASS-523-458	
N84-28492*	c 60	NASA-CASE-MSC-20258-1			US-PATENT-CLASS-219-541		US-PATENT-CLASS-525-484	
		US-PATENT-APPL-SN-235472			US-PATENT-CLASS-219-543		US-PATENT-CLASS-528-407	
		US-PATENT-CLASS-340-825.21			US-PATENT-CLASS-338-309		US-PATENT-CLASS-528-92	
		US-PATENT-CLASS-340-825.5			US-PATENT-CLASS-428-432		US-PATENT-4,473,674	
		US-PATENT-CLASS-364-900			US-PATENT-4,459,470	N84-34651*	c 32	NAS 1.71: NPO-15519-1
		US-PATENT-4,446,459	N84-33660*	c 33	NAS 1.71: MFS-25302-2		NASA-CASE-NPO-15519-1	
N84-28565*	c 70	NASA-CASE-LEW-12919-2			NASA-CASE-MFS-25302-2		US-PATENT-APPL-SN-314928	
		US-PATENT-APPL-SN-264378			US-PATENT-APPL-SN-243683		US-PATENT-CLASS-343-5-CM	
		US-PATENT-APPL-SN-364072			US-PATENT-APPL-SN-481086		US-PATENT-CLASS-343-5-DP	
		US-PATENT-CLASS-313-106			US-PATENT-CLASS-307-87		US-PATENT-CLASS-343-5-FT	
		US-PATENT-CLASS-313-107			US-PATENT-CLASS-322-25		US-PATENT-4,471,357	
		US-PATENT-CLASS-313-351			US-PATENT-CLASS-322-29	N84-34705*	c 35	NAS 1.71: NPO-15558-1
		US-PATENT-CLASS-315-5.38			US-PATENT-CLASS-322-47		NASA-CASE-NPO-15558-1	
		US-PATENT-4,349,424			US-PATENT-CLASS-322-95		US-PATENT-APPL-SN-373770	
		US-PATENT-4,417,175			US-PATENT-4,388,585		US-PATENT-CLASS-250-343	
N84-28568*	c 71	NASA-CASE-MFS-25828-1	N84-33661*	c 33	US-PATENT-4,473,792		US-PATENT-CLASS-250-351	
		US-PATENT-APPL-SN-493866			NAS 1.71: MFS-25852-1		US-PATENT-CLASS-356-434	
		US-PATENT-CLASS-137-838			NASA-CASE-MFS-25852-1		US-PATENT-CLASS-356-51	
		US-PATENT-CLASS-366-106			US-PATENT-APPL-SN-450319		US-PATENT-4,474,471	
		US-PATENT-CLASS-425-6			US-PATENT-CLASS-318-729	N84-34792*	c 44	NAS 1.71: NPO-15808-1
		US-PATENT-CLASS-65-142			US-PATENT-CLASS-318-802		NASA-CASE-NPO-15808-1	
		US-PATENT-CLASS-65-160			US-PATENT-4,469,998		US-PATENT-APPL-SN-383068	
		US-PATENT-CLASS-65-21.3	N84-33663*	c 33	NAS 1.71: LEW-13495-1		US-PATENT-CLASS-126-415	
		US-PATENT-CLASS-65-21.4			NASA-CASE-LEW-13495-1		US-PATENT-CLASS-4-498	
		US-PATENT-4,447,251			US-PATENT-APPL-SN-368188		US-PATENT-4,470,403	
N84-28575*	c 72	NASA-CASE-MFS-25641-1			US-PATENT-CLASS-323-901	N84-34913*	c 52	NASA-CASE-GSC-12652-1
		US-PATENT-APPL-SN-342857			US-PATENT-CLASS-363-22		US-PATENT-APPL-SN-377891	
		US-PATENT-CLASS-250-305			US-PATENT-CLASS-363-49		US-PATENT-CLASS-128-24-A	
		US-PATENT-CLASS-324-457			US-PATENT-4,464,710		US-PATENT-CLASS-128-328	
		US-PATENT-CLASS-324-71.3	N84-33765*	c 35	NAS 1.71: GSC-12682-1		US-PATENT-4,474,180	
		US-PATENT-CLASS-324-72.5			NASA-CASE-GSC-12682-1		NASA-CASE-NPO-15786-1	
		US-PATENT-4,455,532			US-PATENT-APPL-SN-350477	N84-35112* #	c 76	US-PATENT-APPL-SN-366103
N84-28590*	c 74	NASA-CASE-NPO-15805-1			US-PATENT-CLASS-250-367		US-PATENT-CLASS-204-11T	
		US-PATENT-APPL-SN-296137			US-PATENT-CLASS-250-385		US-PATENT-CLASS-204-37.6	
		US-PATENT-CLASS-250-332			US-PATENT-CLASS-250-483.1		US-PATENT-CLASS-204-56R	
		US-PATENT-CLASS-250-338			US-PATENT-CLASS-357-29		US-PATENT-CLASS-324-158D	
		US-PATENT-4,443,701			US-PATENT-CLASS-357-30		US-PATENT-CLASS-324-158T	
N84-28732*	c 02	NASA-CASE-LAR-12396-1			US-PATENT-CLASS-357-32		US-PATENT-4,462,871	
		US-PATENT-APPL-SN-017889	N84-33766*	c 35	US-PATENT-4,472,728	N84-35113*	c 76	NASA-CASE-NPO-15629-1
		US-PATENT-CLASS-244-35R			NAS 1.71: NPO-13556-1		US-PATENT-APPL-SN-371351	
		US-PATENT-CLASS-416-223R			NASA-CASE-NPO-13556-1		US-PATENT-CLASS-156-DIG.64	
		US-PATENT-CLASS-416-242			US-PATENT-APPL-SN-561369		US-PATENT-CLASS-156-DIG.88	
		US-PATENT-4,459,083			US-PATENT-CLASS-250-339		US-PATENT-CLASS-156-DIG.98	
N84-32398* #	c 09	NAS 1.71: MFS-25962-1			US-PATENT-CLASS-356-188		US-PATENT-CLASS-156-608	
		NASA-CASE-MFS-25962-1			US-PATENT-CLASS-356-189		US-PATENT-CLASS-156-617-SP	
		US-PATENT-APPL-SN-633180			US-PATENT-CLASS-356-73		US-PATENT-CLASS-156-617-V	



N85-19985*	c 08	US-PATENT-CLASS-422-246	N85-20338*	c 37	US-PATENT-CLASS-308-10	N85-21349*	c 27	US-PATENT-CLASS-528-226
		US-PATENT-CLASS-422-249			US-PATENT-4,473,259			US-PATENT-CLASS-528-229
		US-PATENT-4,469,552			NAS 1.71:MSC-20112-1			US-PATENT-CLASS-528-352
		NAS 1.71:LAR-12787-2			NASA-CASE-MSC-20112-1			US-PATENT-CLASS-528-353
		NASA-CASE-LAR-12787-2			US-PATENT-APPL-SN-392104			US-PATENT-4,499,260
		US-PATENT-APPL-SN-301078			US-PATENT-CLASS-251-265			NAS 1.71:LAR-12775-2
		US-PATENT-APPL-SN-5226628			US-PATENT-CLASS-251-267			NASA-CASE-LAR-12775-2
		US-PATENT-CLASS-244-214			US-PATENT-CLASS-251-284			US-PATENT-APPL-SN-308201
		US-PATENT-CLASS-244-90R			US-PATENT-CLASS-251-297			US-PATENT-APPL-SN-461788
		US-PATENT-4,485,992			US-PATENT-CLASS-74-424.8B			US-PATENT-CLASS-525-181
N85-19990*	c 09	NAS 1.71:KSC-11218-1			US-PATENT-CLASS-74-424.8VA			US-PATENT-CLASS-525-182
		NASA-CASE-KSC-11218-1	N85-20530*	c 44	US-PATENT-4,483,512			US-PATENT-CLASS-525-183
		US-PATENT-APPL-SN-387649			NAS 1.71:LEW-13414-1			US-PATENT-CLASS-525-184
		US-PATENT-CLASS-434-242			NASA-CASE-LEW-13414-1			US-PATENT-CLASS-525-474
		US-PATENT-CLASS-434-243			US-PATENT-APPL-SN-465364			US-PATENT-4,389,504
		US-PATENT-CLASS-434-35			US-PATENT-CLASS-136-256			US-PATENT-4,497,935
		US-PATENT-CLASS-434-49			US-PATENT-CLASS-427-85	N85-21350*	c 27	NAS 1.71:LEW-13770-3
		US-PATENT-4,490,117			US-PATENT-4,478,879			NASA-CASE-LEW-13770-3
N85-20123*	c 27	NAS 1.71:LAR-12723-1	N85-21147*	c 05	NAS 1.71:LAR-12979-1			US-PATENT-APPL-SN-516217
		NASA-CASE-LAR-12723-1			NASA-CASE-LAR-12979-1			US-PATENT-APPL-SN-561431
		US-PATENT-APPL-SN-199768			US-PATENT-APPL-SN-508371			US-PATENT-CLASS-526-217
		US-PATENT-CLASS-525-420			US-PATENT-CLASS-244-139			US-PATENT-CLASS-526-262
		US-PATENT-CLASS-528-183			US-PATENT-CLASS-244-147			US-PATENT-CLASS-528-229
		US-PATENT-CLASS-528-192			US-PATENT-CLASS-244-75R			US-PATENT-CLASS-528-315
		US-PATENT-CLASS-528-220			US-PATENT-4,496,122			US-PATENT-CLASS-528-322
		US-PATENT-CLASS-528-336	N85-21178*	c 09	NAS 1.71:LAR-13014-1			US-PATENT-CLASS-528-336
		US-PATENT-CLASS-528-345			NASA-CASE-LAR-13014-1			US-PATENT-CLASS-528-342
		US-PATENT-4,395,540			US-PATENT-APPL-SN-527918	N85-21351*	c 27	US-PATENT-4,497,948
N85-20124*	c 27	NAS 1.71:LAR-12858-2			US-PATENT-CLASS-73-147			NAS 1.71:LEW-13770-4
		NASA-CASE-LAR-12858-2			US-PATENT-4,493,211			NASA-CASE-LEW-13770-4
		US-PATENT-APPL-SN-407240	N85-21256*	c 20	NAS 1.71:LEW-13881-1			US-PATENT-APPL-SN-516217
		US-PATENT-APPL-SN-492282			NASA-CASE-LEW-13881-1			US-PATENT-APPL-SN-561429
		US-PATENT-CLASS-264-DIG.65			US-PATENT-APPL-SN-473498			US-PATENT-CLASS-526-262
		US-PATENT-CLASS-264-112			US-PATENT-CLASS-60-202			US-PATENT-CLASS-528-229
		US-PATENT-CLASS-264-120			US-PATENT-4,466,242			US-PATENT-CLASS-528-322
		US-PATENT-CLASS-264-137	N85-21266*	c 24	NAS 1.71:LEW-13324-2			US-PATENT-CLASS-528-342
		US-PATENT-CLASS-264-152			NASA-CASE-LEW-13324-2			US-PATENT-4,497,939
		US-PATENT-CLASS-264-258			US-PATENT-APPL-SN-375784	N85-21352*	c 27	NAS 1.71:LEW-13770-5
		US-PATENT-CLASS-264-331.12			US-PATENT-APPL-SN-523297			NASA-CASE-LEW-13770-5
		US-PATENT-CLASS-264-331.19			US-PATENT-CLASS-428-633			US-PATENT-APPL-SN-516217
		US-PATENT-CLASS-528-226			US-PATENT-CLASS-428-656			US-PATENT-APPL-SN-561435
		US-PATENT-CLASS-528-239			US-PATENT-CLASS-428-678			US-PATENT-CLASS-526-262
		US-PATENT-CLASS-528-241			US-PATENT-CLASS-428-679			US-PATENT-CLASS-528-229
		US-PATENT-CLASS-528-258			US-PATENT-CLASS-428-680			US-PATENT-CLASS-528-322
		US-PATENT-CLASS-528-279			US-PATENT-CLASS-428-681			US-PATENT-CLASS-528-342
		US-PATENT-4,398,021			US-PATENT-CLASS-428-682			US-PATENT-4,497,940
		US-PATENT-4,489,027			US-PATENT-CLASS-428-683	N85-21404*	c 31	NAS 1.71:GSC-12799-1
N85-20125*	c 27	NAS 1.71:LAR-12894-1			US-PATENT-CLASS-428-684			NASA-CASE-GSC-12799-1
		NASA-CASE-LAR-12894-1			US-PATENT-4,485,151			US-PATENT-APPL-SN-461724
		US-PATENT-APPL-SN-516087	N85-21267*	c 24	NAS 1.71:LEW-13837-2			US-PATENT-CLASS-31-35
		US-PATENT-CLASS-156-273.7			NASA-CASE-LEW-13837-2			US-PATENT-CLASS-310-22
		US-PATENT-CLASS-24-304			US-PATENT-APPL-SN-495381			US-PATENT-CLASS-417-417
		US-PATENT-CLASS-24-447			US-PATENT-APPL-SN-591089			US-PATENT-CLASS-417-488
		US-PATENT-CLASS-24-450			US-PATENT-CLASS-204-192C			US-PATENT-CLASS-62-6
		US-PATENT-CLASS-24-693			US-PATENT-CLASS-204-192N			US-PATENT-CLASS-92-98R
		US-PATENT-4,488,335			US-PATENT-CLASS-204-192R			US-PATENT-4,500,265
N85-20126*	c 27	NAS 1.71:MFS-25862-1			US-PATENT-CLASS-423-445	N85-21427*	c 32	NAS 1.71:MSC-18578-1
		NASA-CASE-MFS-25862-1			US-PATENT-CLASS-423-446			NASA-CASE-MSC-18578-1
		US-PATENT-APPL-SN-465366			US-PATENT-CLASS-423-449			US-PATENT-APPL-SN-367132
		US-PATENT-CLASS-73-579			US-PATENT-CLASS-427-39			US-PATENT-CLASS-358-161
		US-PATENT-CLASS-73-582			US-PATENT-4,437,962			US-PATENT-CLASS-358-174
		US-PATENT-CLASS-73-588			US-PATENT-4,495,044			US-PATENT-CLASS-358-217
		US-PATENT-4,479,386	N85-21279*	c 25	NAS 1.71:GSC-12808-1			US-PATENT-CLASS-358-219
		NAS 1.71:LEW-14080-1			NASA-CASE-GSC-12808-1			US-PATENT-4,495,520
		NASA-CASE-LEW-14080-1			US-PATENT-APPL-SN-462497	N85-21428*	c 32	NAS 1.71:NPO-15433-1
		US-PATENT-APPL-SN-628866			US-PATENT-CLASS-376-159			NASA-CASE-NPO-15433-1
		US-PATENT-CLASS-204-192C			US-PATENT-4,483,817			US-PATENT-APPL-SN-250585
		US-PATENT-CLASS-204-192R	N85-21280*	c 25	NAS 1.71:MFS-25721-1			US-PATENT-CLASS-364-200
		US-PATENT-CLASS-204-192SP			NASA-CASE-MFS-25721-1			US-PATENT-4,493,021
		US-PATENT-CLASS-423-DIG.10			US-PATENT-APPL-SN-492964	N85-21491*	c 33	NAS 1.71:NPO-15560-1
		US-PATENT-CLASS-423-414			US-PATENT-CLASS-556-410			NASA-CASE-NPO-15560-1
		US-PATENT-CLASS-423-445			US-PATENT-4,474,975			US-PATENT-APPL-SN-275909
		US-PATENT-CLASS-423-446	N85-21347*	c 27	NAS 1.71:ARC-11368-2			US-PATENT-CLASS-250-426
		US-PATENT-CLASS-423-449			NASA-CASE-ARC-11368-2			US-PATENT-CLASS-313-131A
		US-PATENT-4,490,229			US-PATENT-APPL-SN-175452			US-PATENT-CLASS-315-111.31
N85-20294*	c 35	NAS 1.71:GSC-12789-1			US-PATENT-APPL-SN-288267			US-PATENT-CLASS-315-111.81
		NASA-CASE-GSC-12789-1			US-PATENT-APPL-SN-502820			US-PATENT-4,475,063
		US-PATENT-APPL-SN-409680			US-PATENT-CLASS-526-262	N85-21492*	c 33	NAS 1.71:LEW-13833-1
		US-PATENT-CLASS-177-147			US-PATENT-CLASS-526-274			NASA-CASE-LEW-13833-1
		US-PATENT-CLASS-177-260			US-PATENT-CLASS-528-167			US-PATENT-APPL-SN-486471
		US-PATENT-CLASS-73-862.54			US-PATENT-CLASS-528-168			US-PATENT-CLASS-136-255
		US-PATENT-4,479,560			US-PATENT-CLASS-528-170			US-PATENT-CLASS-357-12
N85-20295*	c 35	NAS 1.71:LAR-13065-1			US-PATENT-CLASS-528-321			US-PATENT-CLASS-357-30
		NASA-CASE-LAR-13065-1			US-PATENT-CLASS-528-322			US-PATENT-4,482,779
		US-PATENT-APPL-SN-484745			US-PATENT-4,276,344	N85-21493*	c 33	NAS 1.71:NPO-15920-1
		US-PATENT-CLASS-73-187			US-PATENT-4,395,557			NASA-CASE-NPO-15920-1
		US-PATENT-4,485,671			US-PATENT-4,496,701			US-PATENT-APPL-SN-403848
N85-20300* #	c 35	NAS 1.71:MFS-28008-1	N85-21348*	c 27	NASA-CASE-ARC-11413-1			US-PATENT-CLASS-343-17.7
		NASA-CASE-MFS-28008-1			US-PATENT-APPL-SN-440656			US-PATENT-CLASS-343-376
		US-PATENT-APPL-SN-684194			US-PATENT-CLASS-528-125			US-PATENT-4,488,155
N85-20337*	c 37	NAS 1.71:GSC-12582-2			US-PATENT-CLASS-528-126	N85-21568*	c 34	NAS 1.71:LAR-12588-1
		NASA-CASE-GSC-12582-2			US-PATENT-CLASS-528-128			NASA-CASE-LAR-12588-1
		US-PATENT-APPL-SN-220213			US-PATENT-CLASS-528-166			US-PATENT-APPL-SN-234222
		US-PATENT-APPL-SN-415960			US-PATENT-CLASS-528-185			US-PATENT-CLASS-165-104.26
		US-PATENT-CLASS-104-281			US-PATENT-CLASS-528-186			US-PATENT-CLASS-73-179
		US-PATENT-CLASS-104-284			US-PATENT-CLASS-528-187			US-PATENT-CLASS-73-708

		US-PATENT-4,485,670	N85-21846*	c 46	NAS 1.71:NPO-15430-1			US-PATENT-CLASS-219-10.53
N85-21595*	c 35	NAS 1.71:MSC-20275-1			NASA-CASE-NPO-15430-1			US-PATENT-CLASS-219-10.77
		NASA-CASE-MSC-20275-1			US-PATENT-APPL-SN-322317			US-PATENT-4,521,659
		US-PATENT-APPL-SN-425205			US-PATENT-CLASS-343-352	N85-29117*	c 32	NASA-CASE-NPO-15432-1
		US-PATENT-CLASS-222-309			US-PATENT-CLASS-343-460			US-PATENT-APPL-SN-425204
		US-PATENT-CLASS-222-340			US-PATENT-CLASS-343-5W			US-PATENT-CLASS-358-109
		US-PATENT-CLASS-222-43			US-PATENT-4,463,357			US-PATENT-CLASS-358-133
		US-PATENT-CLASS-222-48	N85-21992*	c 60	NAS 1.71:NPO-15295-1			US-PATENT-4,513,317
		US-PATENT-4,488,663			NASA-CASE-NPO-15295-1	N85-29118*	c 32	NASA-CASE-NPO-15743-1
N85-21596*	c 35	NAS 1.71:NPO-15759-1			US-PATENT-APPL-SN-291645			US-PATENT-APPL-SN-448881
		NASA-CASE-NPO-15759-1			US-PATENT-CLASS-364-200			US-PATENT-CLASS-343-876
		US-PATENT-APPL-SN-367136			US-PATENT-4,481,570			US-PATENT-CLASS-455-73
		US-PATENT-CLASS-324-427	N85-22104*	c 71	NAS 1.71:NPO-15466-1			US-PATENT-4,503,436
		US-PATENT-CLASS-429-58			NASA-CASE-NPO-15466-1	N85-29142*	c 33	NASA-CASE-NPO-15553-1
		US-PATENT-4,499,424			US-PATENT-APPL-SN-361217			US-PATENT-APPL-SN-437912
N85-21597*	c 35	NAS 1.71:NPO-16027-1			US-PATENT-CLASS-23-313R			US-PATENT-CLASS-156-DIG.62
		NASA-CASE-NPO-16027-1			US-PATENT-CLASS-55-15			US-PATENT-CLASS-364-400
		US-PATENT-APPL-SN-500044			US-PATENT-CLASS-55-277			US-PATENT-CLASS-364-453
		US-PATENT-CLASS-73-40.5A			US-PATENT-4,475,921			US-PATENT-CLASS-74-5.6D
		US-PATENT-CLASS-73-753	N85-22105*	c 71	NAS 1.71:NPO-16022-1			US-PATENT-4,521,854
		US-PATENT-4,498,333			NASA-CASE-NPO-16022-1	N85-29143*	c 33	NASA-CASE-NPO-15890-1-CU
N85-21598*	c 35	NAS 1.71:WLP-10055-2			US-PATENT-APPL-SN-526750			US-PATENT-APPL-SN-556513
		NASA-CASE-WLP-10055-2			US-PATENT-CLASS-73-505			US-PATENT-CLASS-331-3
		US-PATENT-APPL-SN-352827			US-PATENT-4,463,606			US-PATENT-CLASS-331-31
		US-PATENT-APPL-SN-526770	N85-22139*	c 74	NAS 1.71:NPO-15155-1			US-PATENT-CLASS-331-36C
		US-PATENT-CLASS-29-610SG			NASA-CASE-NPO-15155-1			US-PATENT-CLASS-331-94.1
		US-PATENT-4,425,608			US-PATENT-APPL-SN-242797			US-PATENT-CLASS-331-96
		US-PATENT-4,498,231			US-PATENT-CLASS-250-221			US-PATENT-CLASS-333-231
N85-21631*	c 36	NAS 1.71:NPO-15790-1			US-PATENT-CLASS-340-555			US-PATENT-4,517,530
		NASA-CASE-NPO-15790-1			US-PATENT-4,479,053	N85-29144*	c 33	NASA-CASE-LEW-13102-1
		US-PATENT-APPL-SN-423016			NAS 1.71:MFS-25861-1			US-PATENT-APPL-SN-282298
		US-PATENT-CLASS-250-339	N85-22877*	c 33	NASA-CASE-MFS-25861-1			US-PATENT-CLASS-429-206
		US-PATENT-CLASS-250-343			US-PATENT-APPL-SN-504345			US-PATENT-CLASS-429-249
		US-PATENT-4,489,239			US-PATENT-CLASS-318-729			US-PATENT-4,505,998
N85-21639*	c 36	NAS 1.71:GSC-12558-1			US-PATENT-CLASS-318-812	N85-29145*	c 33	NASA-CASE-GSC-12788-1
		NASA-CASE-GSC-12558-1			US-PATENT-4,489,264			US-PATENT-APPL-SN-434085
		US-PATENT-APPL-SN-383086			NAS 1.71:NPO-15801-1			US-PATENT-CLASS-307-271
		US-PATENT-CLASS-356-43	N85-23396*	c 74	NASA-CASE-NPO-15801-1			US-PATENT-CLASS-307-520
		US-PATENT-CLASS-356-45			US-PATENT-APPL-SN-478130			US-PATENT-CLASS-307-521
		US-PATENT-CLASS-374-137			US-PATENT-CLASS-350-168			US-PATENT-CLASS-307-529
		US-PATENT-CLASS-73-705			US-PATENT-CLASS-350-505			US-PATENT-CLASS-328-167
		US-PATENT-4,493,553			US-PATENT-CLASS-350-619			US-PATENT-CLASS-330-302
N85-21649*	c 37	NAS 1.71:MSC-20319-1			US-PATENT-CLASS-356-323			US-PATENT-CLASS-330-306
		NASA-CASE-MSC-20319-1			US-PATENT-CLASS-356-330			US-PATENT-4,521,702
		US-PATENT-APPL-SN-393582			US-PATENT-CLASS-356-331	N85-29146*	c 33	NASA-CASE-GSC-12817-1
		US-PATENT-CLASS-292-252			US-PATENT-4,497,540			US-PATENT-APPL-SN-506477
		US-PATENT-CLASS-403-317	N85-25436* #	c 24	NAS 1.15:76884			US-PATENT-CLASS-336-198
		US-PATENT-CLASS-81-177G			NASA-TM-76884			US-PATENT-CLASS-336-84C
		US-PATENT-4,483,639	N85-28973*	c 23	NASA-CASE-LAR-13262-1			US-PATENT-4,510,476
N85-21650*	c 37	NAS 1.71:NPO-15483-1			US-PATENT-APPL-SN-608741	N85-29147*	c 33	NASA-CASE-GSC-12818-1
		NASA-CASE-NPO-15483-1			US-PATENT-CLASS-525-532			US-PATENT-APPL-SN-511362
		US-PATENT-APPL-SN-387648			US-PATENT-CLASS-525-534			US-PATENT-CLASS-307-82
		US-PATENT-CLASS-125-13R			US-PATENT-CLASS-528-86			US-PATENT-CLASS-363-100
		US-PATENT-CLASS-125-15			US-PATENT-4,510,296			US-PATENT-CLASS-363-19
		US-PATENT-CLASS-51-73R	N85-28982*	c 25	NASA-CASE-LEW-13770-2			US-PATENT-CLASS-363-23
		US-PATENT-CLASS-82-90			US-PATENT-APPL-SN-404809			US-PATENT-CLASS-363-61
		US-PATENT-CLASS-83-664			US-PATENT-APPL-SN-516217			US-PATENT-CLASS-363-71
		US-PATENT-CLASS-83-676			US-PATENT-CLASS-526-262			US-PATENT-CLASS-378-104
		US-PATENT-4,475,527			US-PATENT-CLASS-528-322			US-PATENT-CLASS-378-112
N85-21651*	c 37	NAS 1.71:LAR-12868-1			US-PATENT-CLASS-528-342			US-PATENT-4,517,472
		NASA-CASE-LAR-12868-1			US-PATENT-4,455,418	N85-29179*	c 34	NASA-CASE-LEW-12950-2
		US-PATENT-APPL-SN-322321			US-PATENT-4,514,557			US-PATENT-APPL-SN-202228
		US-PATENT-CLASS-374-208			NASA-CASE-NPO-15928-1			US-PATENT-APPL-SN-507626
		US-PATENT-CLASS-374-210	N85-29005*	c 26	US-PATENT-APPL-SN-537616			US-PATENT-CLASS-165-104.14
		US-PATENT-4,491,427			US-PATENT-CLASS-204-192N			US-PATENT-CLASS-165-32
N85-21652*	c 37	NAS 1.71:NPO-15851-1			US-PATENT-CLASS-427-38			US-PATENT-CLASS-310-306
		NASA-CASE-NPO-15851-1			US-PATENT-CLASS-427-47			US-PATENT-4,506,183
		US-PATENT-APPL-SN-415879			US-PATENT-4,522,844	N85-29180*	c 34	NASA-CASE-MSC-20497-1
		US-PATENT-CLASS-134-37			NASA-CASE-NPO-16103-1			US-PATENT-APPL-SN-615505
		US-PATENT-CLASS-15-406	N85-29043*	c 27	US-PATENT-APPL-SN-617871			US-PATENT-CLASS-122-366
		US-PATENT-CLASS-422-129			US-PATENT-CLASS-525-26			US-PATENT-CLASS-165-1
		US-PATENT-CLASS-422-199			US-PATENT-CLASS-525-47			US-PATENT-CLASS-165-104.26
		US-PATENT-4,500,492			US-PATENT-CLASS-526-328			US-PATENT-4,515,207
N85-21723*	c 43	NAS 1.71:NPO-15651-1			US-PATENT-CLASS-526-329.2	N85-29182* #	c 34	NAS 1.71:NPO-16494-1-CU
		NASA-CASE-NPO-15651-1			US-PATENT-CLASS-528-288			NASA-CASE-NPO-16494-1-CU
		US-PATENT-APPL-SN-375620			US-PATENT-CLASS-528-289			US-PATENT-APPL-SN-739789
		US-PATENT-CLASS-343-352			US-PATENT-CLASS-528-303	N85-29212*	c 35	NASA-CASE-NPO-15722-1
		US-PATENT-CLASS-374-122			US-PATENT-CLASS-528-304			US-PATENT-APPL-SN-457992
		US-PATENT-4,499,470			US-PATENT-4,523,008			US-PATENT-CLASS-204-1T
N85-21768*	c 44	NAS 1.71:LEW-13827-1			NASA-CASE-GSC-12883-1			US-PATENT-CLASS-204-430
		NASA-CASE-LEW-13827-1	N85-29044*	c 27	US-PATENT-APPL-SN-604337			US-PATENT-CLASS-73-336.5
		US-PATENT-APPL-SN-486470			US-PATENT-CLASS-523-135			US-PATENT-4,514,178
		US-PATENT-CLASS-136-225			US-PATENT-CLASS-524-388	N85-29213*	c 35	NASA-CASE-MSC-18866-1
		US-PATENT-CLASS-136-246			US-PATENT-CLASS-524-567			US-PATENT-APPL-SN-350471
		US-PATENT-CLASS-357-30			US-PATENT-4,518,722			US-PATENT-CLASS-422-103
		US-PATENT-4,482,778	N85-29082*	c 31	NASA-CASE-NPO-16257-1			US-PATENT-CLASS-422-86
N85-21769*	c 44	NAS 1.71:MFS-25637-1			US-PATENT-APPL-SN-588164			US-PATENT-CLASS-422-88
		NASA-CASE-MFS-25637-1			US-PATENT-CLASS-62-3			US-PATENT-CLASS-436-2
		US-PATENT-APPL-SN-375684			US-PATENT-4,507,928			US-PATENT-CLASS-73-40.7
		US-PATENT-CLASS-290-1R	N85-29083*	c 31	NASA-CASE-LAR-13181-1			US-PATENT-CLASS-73-863.86
		US-PATENT-CLASS-290-4R			US-PATENT-APPL-SN-507623			US-PATENT-CLASS-73-864.52
		US-PATENT-CLASS-307-64			US-PATENT-CLASS-156-272.4			US-PATENT-4,515,751
		US-PATENT-CLASS-307-66			US-PATENT-CLASS-156-273.9	N85-29214*	c 35	NASA-CASE-MSC-25707-1
		US-PATENT-CLASS-318-46			US-PATENT-CLASS-156-380.2			US-PATENT-APPL-SN-359627
		US-PATENT-CLASS-318-729			US-PATENT-CLASS-219-10.43			US-PATENT-CLASS-126-263
		US-PATENT-4,489,243			US-PATENT-CLASS-219-10.49			US-PATENT-CLASS-165-48R

		US-PATENT-CLASS-165-61			US-PATENT-CLASS-427-178	N85-30922*	c 76	NASA-CASE-NPO-15813-1
		US-PATENT-CLASS-165-64			US-PATENT-CLASS-427-37			US-PATENT-APPL-SN-507624
		US-PATENT-CLASS-244-163			US-PATENT-CLASS-427-422			US-PATENT-CLASS-148-DIG.26
		US-PATENT-4,513,810			US-PATENT-4,518,625			US-PATENT-CLASS-148-174
N85-29264*	c 36	NASA-CASE-NPO-16000-1	N85-30039*	c 25	NASA-CASE-LEW-13770-6			US-PATENT-CLASS-148-175
		US-PATENT-APPL-SN-384547			US-PATENT-APPL-SN-516217			US-PATENT-CLASS-148-33.2
		US-PATENT-CLASS-250-339			US-PATENT-APPL-SN-561434			US-PATENT-CLASS-156-DIG.65
		US-PATENT-CLASS-364-556			US-PATENT-CLASS-526-204			US-PATENT-CLASS-156-DIG.88
		US-PATENT-4,509,130			US-PATENT-CLASS-526-217			US-PATENT-CLASS-156-612
N85-29282*	c 37	NASA-CASE-NPO-15037-2			US-PATENT-CLASS-526-262			US-PATENT-CLASS-29-576E
		US-PATENT-APPL-SN-161257			US-PATENT-CLASS-528-314			US-PATENT-CLASS-29-576J
		US-PATENT-APPL-SN-431420			US-PATENT-CLASS-528-322			US-PATENT-CLASS-29-576W
		US-PATENT-CLASS-415-1			US-PATENT-4,495,339			US-PATENT-CLASS-29-578
		US-PATENT-CLASS-415-68	N85-30187*	c 33	NASA-CASE-NPO-16021-1			US-PATENT-CLASS-357-4
		US-PATENT-4,514,137			US-PATENT-APPL-SN-402205			US-PATENT-CLASS-357-50
N85-29283*	c 37	NASA-CASE-MSC-18852-1			US-PATENT-CLASS-324-158R	N85-30923*	c 76	US-PATENT-4,522,661
		US-PATENT-APPL-SN-392094			US-PATENT-CLASS-324-65R			NASA-CASE-LAR-12893-1
		US-PATENT-CLASS-239-DIG.23			US-PATENT-4,516,071			US-PATENT-APPL-SN-364041
		US-PATENT-CLASS-239-288	N85-30281*	c 35	NASA-CASE-GSC-12851-1			US-PATENT-CLASS-204-1T
		US-PATENT-CLASS-239-322			US-PATENT-APPL-SN-459842			US-PATENT-CLASS-324-158D
		US-PATENT-CLASS-239-327			US-PATENT-CLASS-250-363S			US-PATENT-CLASS-324-71.5
		US-PATENT-CLASS-239-375			US-PATENT-CLASS-250-369			US-PATENT-4,511,838
		US-PATENT-CLASS-239-590			US-PATENT-4,521,688	N85-30934* #	c 76	NAS 1.71:NPO-16306-1-CU
		US-PATENT-CLASS-55-DIG.42	N85-30282*	c 35	NASA-CASE-LAR-12966-1			NASA-CASE-NPO-16306-1-CU
		US-PATENT-4,519,545			US-PATENT-APPL-SN-414237			US-PATENT-APPL-SN-719798
N85-29284*	c 37	NASA-CASE-MSC-20148-1			US-PATENT-CLASS-356-351	N85-33187*	c 23	NASA-CASE-ARC-11243-2
		US-PATENT-APPL-SN-636465			US-PATENT-CLASS-356-358			US-PATENT-APPL-SN-183707
		US-PATENT-CLASS-251-325			US-PATENT-CLASS-73-657			US-PATENT-CLASS-549-335
		US-PATENT-CLASS-251-349			US-PATENT-4,512,661			US-PATENT-4,528,386
		US-PATENT-CLASS-251-353	N85-30305*	c 36	NASA-CASE-NPO-15980-1	N85-33433*	c 34	NASA-CASE-LEW-14039-1
		US-PATENT-CLASS-277-135			US-PATENT-APPL-SN-385220			US-PATENT-APPL-SN-580419
		US-PATENT-CLASS-277-80			US-PATENT-CLASS-357-17			US-PATENT-CLASS-415-115
		US-PATENT-4,523,741			US-PATENT-CLASS-357-40			US-PATENT-CLASS-416-97A
N85-29285*	c 37	NASA-CASE-LAR-13009-1			US-PATENT-CLASS-357-46			US-PATENT-4,529,358
		US-PATENT-APPL-SN-495380			US-PATENT-CLASS-372-38	N85-33489*	c 37	NASA-CASE-LEW-13914-1
		US-PATENT-CLASS-403-28			US-PATENT-CLASS-372-46			US-PATENT-APPL-SN-537615
		US-PATENT-CLASS-403-408			US-PATENT-CLASS-372-50			US-PATENT-CLASS-315-3.5
		US-PATENT-CLASS-411-368			US-PATENT-4,513,423			US-PATENT-CLASS-315-5.38
		US-PATENT-CLASS-411-378	N85-30333*	c 37	NASA-CASE-LEW-13717-1			US-PATENT-CLASS-445-35
		US-PATENT-CLASS-411-426			US-PATENT-APPL-SN-463456			US-PATENT-4,527,092
		US-PATENT-CLASS-411-501			US-PATENT-CLASS-310-77	N85-33490*	c 37	NASA-CASE-LEW-13506-1
		US-PATENT-CLASS-411-531			US-PATENT-CLASS-310-93			US-PATENT-APPL-SN-596960
		US-PATENT-4,512,699			US-PATENT-CLASS-318-611			US-PATENT-CLASS-384-101
N85-29286*	c 37	NASA-CASE-LAR-13040-1			US-PATENT-CLASS-335-100			US-PATENT-CLASS-384-99
		US-PATENT-APPL-SN-547176			US-PATENT-4,517,505			US-PATENT-4,527,910
		US-PATENT-CLASS-219-201	N85-30334*	c 37	NASA-CASE-MSC-20080-1	N85-33701*	c 60	NASA-CASE-MFS-25319-1
		US-PATENT-CLASS-219-221			US-PATENT-APPL-SN-393584			US-PATENT-APPL-SN-437917
		US-PATENT-CLASS-219-285			US-PATENT-CLASS-403-15			US-PATENT-CLASS-364-723
		US-PATENT-CLASS-414-217			US-PATENT-CLASS-403-16			US-PATENT-CLASS-364-853
		US-PATENT-CLASS-73-863.11			US-PATENT-CLASS-403-322			US-PATENT-4,528,639
		US-PATENT-CLASS-73-864.81			US-PATENT-CLASS-89-1.57	N85-33826*	c 76	NASA-CASE-MSC-20036-1
		US-PATENT-4,516,435			US-PATENT-4,512,678			US-PATENT-APPL-SN-569372
N85-29693*	c 71	NASA-CASE-NPO-16147-1-CU	N85-30335*	c 37	NASA-CASE-LAR-12738-2			US-PATENT-CLASS-204-192C
		US-PATENT-APPL-SN-559988			US-PATENT-APPL-SN-539230			US-PATENT-CLASS-204-192P
		US-PATENT-CLASS-73-505			US-PATENT-CLASS-244-158-A			US-PATENT-CLASS-350-342
		US-PATENT-4,520,656			US-PATENT-CLASS-411-103			US-PATENT-CLASS-428-432
N85-29749*	c 74	NASA-CASE-NPO-15464-1			US-PATENT-CLASS-411-108			US-PATENT-CLASS-428-698
		US-PATENT-APPL-SN-342828			US-PATENT-CLASS-52-127.7			US-PATENT-CLASS-428-913
		US-PATENT-CLASS-156-166			US-PATENT-CLASS-52-506			US-PATENT-4,522,469
		US-PATENT-CLASS-350-320			US-PATENT-CLASS-52-745	N85-34280*	c 27	NASA-CASE-ARC-11522-2
		US-PATENT-CLASS-350-96.15			US-PATENT-4,520,601			US-PATENT-APPL-SN-641143
		US-PATENT-4,523,810	N85-30336*	c 37	NASA-CASE-LAR-12864-1			US-PATENT-CLASS-528-168
N85-29750*	c 74	NASA-CASE-MSC-18417-1			US-PATENT-APPL-SN-387646			US-PATENT-CLASS-528-229
		US-PATENT-APPL-SN-523559			US-PATENT-CLASS-403-102			US-PATENT-CLASS-528-352
		US-PATENT-CLASS-350-312			US-PATENT-CLASS-403-322			US-PATENT-CLASS-528-353
		US-PATENT-CLASS-350-319			US-PATENT-CLASS-403-348			US-PATENT-4,536,565
		US-PATENT-CLASS-350-321			US-PATENT-4,518,277	N85-34281*	c 27	NASA-CASE-ARC-11424-1
		US-PATENT-CLASS-52-171			NASA-CASE-NPO-15419-2			US-PATENT-APPL-SN-598777
		US-PATENT-4,521,077			US-PATENT-APPL-SN-259208			US-PATENT-CLASS-428-260
N85-29800*	c 76	NASA-CASE-NPO-15772-1			US-PATENT-APPL-SN-542557			US-PATENT-CLASS-428-408
		US-PATENT-APPL-SN-392944			US-PATENT-CLASS-126-DIG.1			US-PATENT-CLASS-428-413
		US-PATENT-CLASS-156-623Q			US-PATENT-CLASS-126-400			US-PATENT-CLASS-525-107
		US-PATENT-CLASS-23-295R			US-PATENT-CLASS-126-415			US-PATENT-CLASS-525-113
		US-PATENT-4,512,846			US-PATENT-CLASS-126-419			US-PATENT-CLASS-525-119
N85-29947*	c 05	NASA-CASE-ARC-11444-1			US-PATENT-CLASS-126-900			US-PATENT-CLASS-525-186
		US-PATENT-APPL-SN-489675			US-PATENT-4,512,332			US-PATENT-CLASS-525-229
		US-PATENT-CLASS-416-145	N85-30475*	c 44	NASA-CASE-NPO-16155-1			US-PATENT-CLASS-528-113
		US-PATENT-CLASS-416-23			US-PATENT-APPL-SN-578390			US-PATENT-CLASS-528-407
		US-PATENT-CLASS-416-500			US-PATENT-CLASS-136-255			US-PATENT-CLASS-528-94
		US-PATENT-4,514,143			US-PATENT-CLASS-136-256			US-PATENT-4,537,834
N85-29991*	c 18	NASA-CASE-MFS-25837-1			US-PATENT-CLASS-136-261	N85-34282*	c 27	NASA-CASE-LAR-13226-1
		US-PATENT-APPL-SN-401282			US-PATENT-CLASS-357-30			US-PATENT-APPL-SN-548583
		US-PATENT-CLASS-244-118.1			US-PATENT-4,524,237			US-PATENT-CLASS-523-454
		US-PATENT-CLASS-244-158R	N85-30618*	c 52	NASA-CASE-LAR-13028-1			US-PATENT-CLASS-523-458
		US-PATENT-CLASS-248-503			US-PATENT-APPL-SN-582492			US-PATENT-CLASS-528-106
		US-PATENT-CLASS-248-555			US-PATENT-CLASS-128-660			US-PATENT-CLASS-528-229
		US-PATENT-CLASS-403-143			US-PATENT-CLASS-128-736			US-PATENT-CLASS-528-407
		US-PATENT-CLASS-403-56			US-PATENT-CLASS-374-117			US-PATENT-CLASS-528-92
		US-PATENT-CLASS-403-76			US-PATENT-CLASS-374-160			US-PATENT-4,510,277
		US-PATENT-CLASS-403-90			US-PATENT-4,513,750	N85-34327*	c 32	NASA-CASE-NPO-15704-1
		US-PATENT-CLASS-410-79	N85-30765*	c 71	NASA-CASE-NPO-15559-1			US-PATENT-APPL-SN-359382
		US-PATENT-CLASS-410-90			US-PATENT-APPL-SN-379601			US-PATENT-CLASS-343-17.2-PC
		US-PATENT-4,508,296			US-PATENT-CLASS-181-0.5			US-PATENT-CLASS-343-5-CM
N85-30027*	c 24	NASA-CASE-LEW-13828-1			US-PATENT-CLASS-209-422			US-PATENT-CLASS-343-5-W
		US-PATENT-APPL-SN-560035			US-PATENT-CLASS-209-638			US-PATENT-4,509,048
		US-PATENT-CLASS-219-76.14			US-PATENT-4,523,682			

N85-34333*	c 33	NASA-CASE-NPO-15696-1 US-PATENT-APPL-SN-387647 US-PATENT-CLASS-364-571 US-PATENT-CLASS-364-578 US-PATENT-CLASS-372-32 US-PATENT-4,509,132	US-PATENT-CLASS-427-294 US-PATENT-CLASS-427-376.2 US-PATENT-CLASS-427-380 US-PATENT-CLASS-427-397.7 US-PATENT-CLASS-428-698 US-PATENT-CLASS-428-704 US-PATENT-4,535,035	US-PATENT-CLASS-331-116-FE US-PATENT-CLASS-331-117-FE US-PATENT-4,553,110
N85-34373*	c 35	NAS 1.71:NPO-15493-2 NAS 1.71:NPO-15494-2 US-PATENT-APPL-SN-563890 US-PATENT-CLASS-324-65-P US-PATENT-CLASS-73-75 US-PATENT-4,532,797	N86-12547* c 34 NASA-CASE-LAR-13220-1 US-PATENT-APPL-SN-633179 US-PATENT-CLASS-73-3 US-PATENT-CLASS-73-861.07 US-PATENT-4,538,446	N86-19516* c 33 NASA-CASE-NPO-16112-1 US-PATENT-APPL-SN-542232 US-PATENT-CLASS-357-23.6 US-PATENT-CLASS-357-30 US-PATENT-CLASS-357-58 US-PATENT-CLASS-357-59 US-PATENT-4,531,143
N85-34374*	c 35	NASA-CASE-ARC-11503-1 US-PATENT-APPL-SN-582643 US-PATENT-CLASS-250-374 US-PATENT-CLASS-250-379 US-PATENT-4,538,066	N86-19304* c 04 NASA-CASE-KSC-11155-1 US-PATENT-APPL-SN-425201 US-PATENT-CLASS-343-6.8-R US-PATENT-4,540,986	N86-19580* c 35 NASA-CASE-GSC-12795-1 US-PATENT-APPL-SN-462508 US-PATENT-CLASS-374-115 US-PATENT-CLASS-374-120 US-PATENT-CLASS-374-163 US-PATENT-4,556,327
N85-34375*	c 35	NASA-CASE-LAR-13243-1 US-PATENT-APPL-SN-590923 US-PATENT-CLASS-73-831 US-PATENT-CLASS-73-856 US-PATENT-4,535,636	N86-19310* c 05 NASA-CASE-LAR-13155-1 US-PATENT-APPL-SN-469371 US-PATENT-CLASS-244-158-A US-PATENT-CLASS-244-158-R US-PATENT-CLASS-244-172 US-PATENT-4,557,444	N86-19581* c 35 NASA-CASE-MS-20250-1 US-PATENT-APPL-SN-491113 US-PATENT-CLASS-73-862.01 US-PATENT-CLASS-73-862.54 US-PATENT-4,557,149
N85-34401*	c 37	NASA-CASE-MFS-25907-1 US-PATENT-APPL-SN-510137 US-PATENT-CLASS-244-118.1 US-PATENT-CLASS-244-158R US-PATENT-CLASS-248-550 US-PATENT-CLASS-267-150 US-PATENT-CLASS-267-8R US-PATENT-CLASS-410-156 US-PATENT-4,536,114	N86-19376* c 23 NASA-CASE-ARC-11428-1 US-PATENT-APPL-SN-499126 US-PATENT-CLASS-260-927-N US-PATENT-CLASS-428-410 US-PATENT-CLASS-528-310 US-PATENT-CLASS-548-413 US-PATENT-CLASS-564-113 US-PATENT-4,550,177	N86-19603* c 37 NASA-CASE-MFS-25949-1 US-PATENT-APPL-SN-538063 US-PATENT-CLASS-414-730 US-PATENT-CLASS-901-31 US-PATENT-CLASS-901-50 US-PATENT-4,545,723
N85-34403*	c 37	NASA-CASE-MS-20127-2 US-PATENT-APPL-SN-646044 US-PATENT-CLASS-137-116.3 US-PATENT-CLASS-137-99 US-PATENT-4,509,548	N86-19380* c 24 NASA-CASE-ARC-11427-1 US-PATENT-APPL-SN-493865 US-PATENT-CLASS-523-433 US-PATENT-CLASS-523-445 US-PATENT-CLASS-523-66468 US-PATENT-CLASS-525-423 US-PATENT-CLASS-525-527 US-PATENT-CLASS-528-102 US-PATENT-CLASS-528-103 US-PATENT-4,550,129	N86-19604* c 37 NASA-CASE-NPO-15960-1 US-PATENT-APPL-SN-527613 US-PATENT-CLASS-337-140 US-PATENT-CLASS-60-527 US-PATENT-CLASS-60-528 US-PATENT-4,553,393
N85-34441*	c 44	NASA-CASE-LEW-14077-1 US-PATENT-APPL-SN-580573 US-PATENT-CLASS-136-253 US-PATENT-4,528,417	N86-19413* c 25 NASA-CASE-MS-20622-1 US-PATENT-APPL-SN-571616 US-PATENT-CLASS-374-46 US-PATENT-CLASS-374-8 US-PATENT-CLASS-422-78 US-PATENT-CLASS-436-155 US-PATENT-CLASS-73-7 US-PATENT-4,561,784	N86-19605* c 37 NASA-CASE-NPO-16038-1 US-PATENT-APPL-SN-469864 US-PATENT-CLASS-16-294 US-PATENT-CLASS-403-113 US-PATENT-CLASS-403-120 US-PATENT-4,558,967
N85-34629*	c 74	NASA-CASE-NPO-15865-1 US-PATENT-APPL-SN-425202 US-PATENT-CLASS-343-13-R US-PATENT-CLASS-356-5 US-PATENT-4,533,242	N86-19455* c 27 NASA-CASE-ARC-11405-2 US-PATENT-APPL-SN-514117 US-PATENT-CLASS-260-245.75 US-PATENT-CLASS-260-245.9 US-PATENT-CLASS-528-327 US-PATENT-CLASS-528-755	N86-19606* c 37 NASA-CASE-LEW-13670-1 US-PATENT-APPL-SN-603374 US-PATENT-CLASS-384-103 US-PATENT-CLASS-384-106 US-PATENT-4,552,466
N85-34722*	c 85	NASA-CASE-NPO-15949-1 US-PATENT-APPL-SN-457990 US-PATENT-CLASS-414-288 US-PATENT-CLASS-414-328 US-PATENT-CLASS-414-373 US-PATENT-CLASS-414-786 US-PATENT-4,537,554	N86-19456* c 27 NASA-CASE-LAR-13135-1 US-PATENT-APPL-SN-649328 US-PATENT-CLASS-525-432 US-PATENT-CLASS-525-436 US-PATENT-CLASS-528-179 US-PATENT-CLASS-528-182 US-PATENT-CLASS-528-185 US-PATENT-CLASS-528-352 US-PATENT-CLASS-528-353 US-PATENT-4,552,931	N86-19711* c 43 NASA-CASE-NPO-15939-1 US-PATENT-APPL-SN-465365 US-PATENT-CLASS-343-5-CD US-PATENT-CLASS-343-5-CM US-PATENT-CLASS-343-5-VQ US-PATENT-CLASS-367-88 US-PATENT-4,551,724
N85-35194*	c 07	NASA-CASE-LAR-13019-1 US-PATENT-APPL-SN-576308 US-PATENT-CLASS-244-199 US-PATENT-CLASS-244-55 US-PATENT-4,533,101	N86-19457* c 27 NASA-CASE-LEW-13864-1 US-PATENT-APPL-SN-434087 US-PATENT-CLASS-528-229 US-PATENT-CLASS-528-322 US-PATENT-CLASS-528-342 US-PATENT-CLASS-528345 US-PATENT-4,560,742	N86-19721* c 44 NASA-CASE-LEW-14028-1 US-PATENT-APPL-SN-642310 US-PATENT-CLASS-429-109 US-PATENT-CLASS-429-15 US-PATENT-CLASS-429-19 US-PATENT-CLASS-429-51 US-PATENT-4,543,302
N85-35195*	c 07	NASA-CASE-LEW-13562-2 US-PATENT-APPL-SN-500651 US-PATENT-CLASS-239-402.5 US-PATENT-CLASS-60-39.23 US-PATENT-CLASS-60-748 US-PATENT-4,534,166	N86-19458* c 27 NASA-CASE-LEW-14072-1 US-PATENT-APPL-SN-649330 US-PATENT-CLASS-204-192-C US-PATENT-CLASS-204-192-D US-PATENT-CLASS-204-192-R US-PATENT-CLASS-204-298 US-PATENT-CLASS-427-248.1 US-PATENT-CLASS-427-38 US-PATENT-CLASS-428-446 US-PATENT-CLASS-428-473.5 US-PATENT-CLASS-428-702 US-PATENT-4,560,577	N86-19885* # c 52 NAS 1.71:GSC-12944-1 NASA-CASE-GSC-12944-1 US-PATENT-APPL-SN-793006 N86-20124* c 74 NASA-CASE-MFS-25942-1 US-PATENT-APPL-SN-571613 US-PATENT-CLASS-378-43 US-PATENT-CLASS-378-85 US-PATENT-4,562,583
N85-35200*	c 08	NASA-CASE-LAR-13076-1 US-PATENT-APPL-SN-532342 US-PATENT-CLASS-244-113 US-PATENT-CLASS-244-139 US-PATENT-CLASS-244-75-R US-PATENT-4,538,778	N86-20125* c 74 NASA-CASE-ARC-11502-1 US-PATENT-APPL-SN-594134 US-PATENT-CLASS-350-276-R US-PATENT-CLASS-350-319 US-PATENT-CLASS-350-448 US-PATENT-CLASS-350-537 US-PATENT-CLASS-350-580 US-PATENT-4,542,963	N86-20126* c 74 NASA-CASE-MS-20418-1 US-PATENT-APPL-SN-438446 US-PATENT-CLASS-378-58 US-PATENT-CLASS-378-59 US-PATENT-4,542,520
N85-35227*	c 23	NASA-CASE-NPO-16203-1 US-PATENT-APPL-SN-493179 US-PATENT-CLASS-435-160 US-PATENT-CLASS-435-842 US-PATENT-4,539,293	N86-19479* c 31 NASA-CASE-LAR-13098-1 US-PATENT-APPL-SN-530339 US-PATENT-CLASS-16-242 US-PATENT-CLASS-16-390 US-PATENT-CLASS-403-171 US-PATENT-CLASS-403-64 US-PATENT-CLASS-52-632 US-PATENT-CLASS-52-637 US-PATENT-CLASS-52-646 US-PATENT-CLASS-52-648 US-PATENT-4,557,097	N86-20150* c 76 NASA-CASE-GSC-12816-1 US-PATENT-APPL-SN-507625 US-PATENT-CLASS-136-255 US-PATENT-CLASS-136-262 US-PATENT-CLASS-29-572 US-PATENT-CLASS-357-15 US-PATENT-CLASS-357-30 US-PATENT-4,543,442
N85-35233*	c 24	NASA-CASE-LEW-14057-1 US-PATENT-APPL-SN-375784 US-PATENT-APPL-SN-523297 US-PATENT-APPL-SN-640712 US-PATENT-CLASS-428-633 US-PATENT-CLASS-428-656 US-PATENT-CLASS-428-678 US-PATENT-CLASS-428-679 US-PATENT-CLASS-428-680 US-PATENT-CLASS-428-681 US-PATENT-CLASS-428-682 US-PATENT-4,485,151 US-PATENT-4,535,033	N86-20389* c 07 NASA-CASE-LEW-13142-2 US-PATENT-APPL-SN-413101 US-PATENT-CLASS-60-39.02 US-PATENT-CLASS-60-39.07 US-PATENT-CLASS-60-736 US-PATENT-4,550,561	N86-20469* c 18 NASA-CASE-MFS-25429-1 US-PATENT-APPL-SN-596959 US-PATENT-CLASS-124-56
N85-35253*	c 25	NASA-CASE-NPO-15924-1 US-PATENT-APPL-SN-526768 US-PATENT-CLASS-201-17 US-PATENT-CLASS-44-1-SR US-PATENT-4,511,362	N86-19515* c 33 NASA-CASE-GSC-12555-1 US-PATENT-APPL-SN-153240	
N85-35267*	c 26	NASA-CASE-LEW-13923-1 US-PATENT-APPL-SN-571617 US-PATENT-CLASS-427-191 US-PATENT-CLASS-427-228		

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		US-PATENT-CLASS-244-181	N86-28620*	c 54	NASA-CASE-ARC-11543-1	US-PATENT-CLASS-528-108	
		US-PATENT-CLASS-340-968			US-PATENT-APPL-SN-684192	US-PATENT-CLASS-528-124	
		US-PATENT-CLASS-364-433			US-PATENT-CLASS-138-120	US-PATENT-CLASS-528-337	
		US-PATENT-CLASS-364-435			US-PATENT-CLASS-2-2.1A	US-PATENT-CLASS-528-352	
		US-PATENT-CLASS-73-178T			US-PATENT-CLASS-285-168	US-PATENT-CLASS-528-399	
		US-PATENT-4,586,140			US-PATENT-CLASS-414-7	US-PATENT-CLASS-528-406	
N86-27288*	c 08	NASA-CASE-ARC-11372-1	N86-28732*	c 74	US-PATENT-4,594,734	US-PATENT-CLASS-528-407	
		US-PATENT-APPL-SN-415878			NASA-CASE-GSC-12825-1	US-PATENT-4,587,324	
		US-PATENT-CLASS-200-157			US-PATENT-APPL-SN-698641	NAS 1.71-LAR-13555-1	
		US-PATENT-CLASS-244-234			US-PATENT-CLASS-350-276R	NASA-CASE-LAR-13555-1	
		US-PATENT-CLASS-250-211K			US-PATENT-CLASS-350-505	US-PATENT-APPL-SN-871207	
		US-PATENT-CLASS-318-584			US-PATENT-CLASS-354-479	NASA-CASE-GSC-12880-1	
		US-PATENT-CLASS-318-640			US-PATENT-CLASS-358-222	US-PATENT-APPL-SN-590925	
		US-PATENT-4,584,510			US-PATENT-4,598,981	US-PATENT-CLASS-427-191	
N86-27431*	c 25	NASA-CASE-MS-C-20206-1	N86-28760*	c 76	NASA-CASE-NPO-15904-1	US-PATENT-CLASS-427-192	
		US-PATENT-APPL-SN-478129			US-PATENT-APPL-SN-465369	US-PATENT-CLASS-427-421	
		US-PATENT-CLASS-141-198			US-PATENT-CLASS-156-DIG.88	US-PATENT-CLASS-427-421	
		US-PATENT-CLASS-200-61.05			US-PATENT-CLASS-156-610	US-PATENT-4,552,784	
		US-PATENT-CLASS-340-605			US-PATENT-CLASS-156-624		
		US-PATENT-4,591,838			US-PATENT-4,596,626	N86-32551*	
N86-27450*	c 27	NASA-CASE-LAR-13316-1	N86-29039*	c 27	NASA-CASE-LAR-13353-1	c 26	NASA-CASE-NPO-15658-1
		US-PATENT-APPL-SN-613139			US-PATENT-APPL-SN-643524	US-PATENT-APPL-SN-451896	
		US-PATENT-CLASS-260-544P			US-PATENT-CLASS-264-204	US-PATENT-CLASS-219-121LE	
		US-PATENT-CLASS-525-534			US-PATENT-CLASS-264-216	US-PATENT-CLASS-264-5	
		US-PATENT-CLASS-525-535			US-PATENT-CLASS-264-236	US-PATENT-CLASS-425-6	
		US-PATENT-CLASS-526-285			US-PATENT-CLASS-264-347	US-PATENT-CLASS-65-142	
		US-PATENT-CLASS-528-171			US-PATENT-CLASS-528-183	US-PATENT-CLASS-65-21.2	
		US-PATENT-CLASS-528-174			US-PATENT-CLASS-528-222	US-PATENT-CLASS-73-505	
		US-PATENT-CLASS-528-176			US-PATENT-CLASS-528-341	US-PATENT-4,553,917	
		US-PATENT-4,587,312			US-PATENT-4,595,548	N86-32568* #	
N86-27451*	c 27	NASA-CASE-ARC-11427-2	N86-29055*	c 31	NASA-CASE-MFS-25825-1	c 27	NASA-CASE-ARC-11512-2
		US-PATENT-APPL-SN-765980			US-PATENT-APPL-SN-657309	US-PATENT-APPL-SN-641153	
		US-PATENT-CLASS-523-434			US-PATENT-CLASS-318-605	US-PATENT-CLASS-528-336	
		US-PATENT-CLASS-523-445			US-PATENT-CLASS-318-636	US-PATENT-CLASS-528-337	
		US-PATENT-CLASS-523-461			US-PATENT-CLASS-318-661	US-PATENT-CLASS-528-340	
		US-PATENT-CLASS-525-108			US-PATENT-CLASS-340-347CC	US-PATENT-CLASS-564-15	
		US-PATENT-CLASS-525-115			US-PATENT-CLASS-340-347SY	US-PATENT-CLASS-568-14	
		US-PATENT-CLASS-525-119			US-PATENT-4,594,540	US-PATENT-4,602,081	
		US-PATENT-CLASS-525-122	N86-29174*	c 35	NASA-CASE-LAR-13254-1CU	N86-32569*	
		US-PATENT-4,588,778			US-PATENT-APPL-SN-668432	c 27	NASA-CASE-LEW-14072-2
N86-27513*	c 32	NASA-CASE-KSC-11285-1			US-PATENT-CLASS-261-78A	US-PATENT-APPL-SN-761235	
		US-PATENT-APPL-SN-655601			US-PATENT-CLASS-55-255	US-PATENT-CLASS-204-192C	
		US-PATENT-CLASS-179-18BC			US-PATENT-CLASS-55-259	US-PATENT-CLASS-204-192D	
		US-PATENT-CLASS-340-347DD			US-PATENT-CLASS-55-521	US-PATENT-CLASS-204-298	
		US-PATENT-CLASS-365-768			US-PATENT-CLASS-55-528	US-PATENT-4,604,181	
		US-PATENT-4,588,986			US-PATENT-4,595,399	N86-32587*	
N86-27593*	c 34	NASA-CASE-MS-C-20812-1	N86-29204*	c 36	NAS 1.71-LAR-13256-1	c 31	NASA-CASE-LEW-14130-1
		US-PATENT-APPL-SN-616002			NASA-CASE-LAR-13256-1	US-PATENT-APPL-SN-659475	
		US-PATENT-CLASS-122-366			US-PATENT-APPL-SN-745973	US-PATENT-CLASS-204-192C	
		US-PATENT-CLASS-165-104.14			US-PATENT-CLASS-372-79	US-PATENT-CLASS-204-192D	
		US-PATENT-CLASS-165-104.26			US-PATENT-4,594,720	US-PATENT-CLASS-204-298	
		US-PATENT-4,583,587	N86-29507* #	c 54	NASA-CASE-ARC-11534-1	US-PATENT-CLASS-313-106	
N86-27629*	c 37	US-PATNET-CLASS-165-41			US-PATENT-APPL-SN-642602	US-PATENT-CLASS-313-107	
		NASA-CASE-ARC-11525-1			US-PATENT-CLASS-138-120	US-PATENT-CLASS-315-5.38	
		US-PATENT-APPL-SN-681041			US-PATENT-CLASS-2-2.1A	US-PATENT-CLASS-427-39	
		US-PATENT-CLASS-318-48			US-PATENT-CLASS-285-168	US-PATENT-4,607,193	
		US-PATENT-CLASS-318-632			US-PATENT-CLASS-285-184	N86-32589* #	
		US-PATENT-CLASS-318-663			US-PATENT-CLASS-285-227	c 31	NAS 1.71-MFS-28153-1
		US-PATENT-CLASS-318-8			US-PATENT-4,598,428	NASA-CASE-MFS-28153-1	
		US-PATENT-4,591,772			US-PATENT-403-164	US-PATENT-APPL-SN-875891	
N86-27630*	c 37	NASA-CASE-LAR-13250-1	N86-29650* #	c 74	NASA-CASE-GSC-12911-1	N86-32624*	
		US-PATENT-APPL-SN-573162			US-PATENT-APPL-SN-606426	c 33	NASA-CASE-GSC-12958-1
		US-PATENT-CLASS-403-312			US-PATENT-CLASS-350-315	US-PATENT-APPL-SN-727035	
		US-PATENT-CLASS-403-388			US-PATENT-CLASS-350-318	US-PATENT-CLASS-331-108D	
		US-PATENT-CLASS-403-408.1			US-PATENT-CLASS-356-402	US-PATENT-CLASS-331-116R	
		US-PATENT-4,579,475			US-PATENT-CLASS-356-419	US-PATENT-CLASS-331-66	
N86-27706*	c 44	NASA-CASE-NPO-16236-1			US-PATENT-4,599,001	US-PATENT-CLASS-374-183	
		US-PATENT-APPL-SN-582495	N86-31726* #	c 27	NASA-CASE-ARC-11421-2	US-PATENT-4,603,306	
		US-PATENT-CLASS-126-418			US-PATENT-APPL-SN-739760	N86-32695* #	
		US-PATENT-CLASS-126-419			US-PATENT-CLASS-428-473.5	c 35	NASA-CASE-NPO-16479-ICU
		US-PATENT-CLASS-126-438			US-PATENT-CLASS-528-170	US-PATENT-APPL-SN-719794	
		US-PATENT-4,586,487			US-PATENT-CLASS-528-220	US-PATENT-CLASS-73-502	
N86-28131*	c 24	NASA-CASE-ARC-11615-1SB			US-PATENT-CLASS-528-321	US-PATENT-CLASS-73-521	
		US-PATENT-APPL-SN-706682			US-PATENT-CLASS-528-322	US-PATENT-4,602,509	
		US-PATENT-CLASS-428-116			US-PATENT-4,600,769	N86-32696*	
		US-PATENT-CLASS-428-408			NASA-CASE-LAR-13351-1	c 35	NASA-CASE-LAR-13294-1
		US-PATENT-CLASS-428-921	N86-31727*	c 27	US-PATENT-APPL-SN-643589	US-PATENT-APPL-SN-706681	
		US-PATENT-CLASS-526-265			US-PATENT-CLASS-264-212	US-PATENT-CLASS-73-147	
		US-PATENT-4,598,007			US-PATENT-CLASS-264-236	US-PATENT-CLASS-73-862.04	
N86-28618*	c 54	NASA-CASE-ARC-11616-1			US-PATENT-CLASS-427-162	US-PATENT-CLASS-73-862.61	
		US-PATENT-APPL-SN-684193			US-PATENT-CLASS-427-164	US-PATENT-4,604,903	
		US-PATENT-CLASS-128-202.11			US-PATENT-CLASS-427-165	N86-32697*	
		US-PATENT-CLASS-2-2.1A			US-PATENT-CLASS-428-336	c 35	NAS 1.71-ARC-11510-1
		US-PATENT-CLASS-2-2.1R			US-PATENT-CLASS-428-473.5	NASA-CASE-ARC-11510-1	
		US-PATENT-CLASS-414-1			US-PATENT-4,603,061	US-PATENT-APPL-SN-602049	
		US-PATENT-CLASS-414-5	N86-32266*	c 74	NASA-CASE-GSC-12761-1	US-PATENT-CLASS-356-28.5	
		US-PATENT-CLASS-414-7			US-PATENT-APPL-SN-406820	US-PATENT-CLASS-356-72	
		US-PATENT-CLASS-414-8			US-PATENT-CLASS-356-4.5	US-PATENT-CLASS-356-73	
		US-PATENT-4,593,415			US-PATENT-CLASS-356-5	US-PATENT-CLASS-434-4	
N86-28619*	c 54	NASA-CASE-ARC-11610-1			US-PATENT-4,600,299	US-PATENT-4,600,301	
		US-PATENT-APPL-SN-684190	N86-32447*	c 09	NASA-CASE-ARC-11504-1	N86-32698*	
		US-PATENT-CLASS-138-120			US-PATENT-APPL-SN-565481	c 35	NASA-CASE-MFS-25833-1
		US-PATENT-CLASS-2-2.1A			US-PATENT-CLASS-356-73	US-PATENT-APPL-SN-473827	
		US-PATENT-CLASS-2-2.1R			US-PATENT-4,605,303	US-PATENT-CLASS-324-226	
		US-PATENT-CLASS-285-168	N86-32525*	c 23	NASA-CASE-ARC-11506-2	US-PATENT-CLASS-324-238	
		US-PATENT-4,598,427			US-PATENT-APPL-SN-641142	US-PATENT-CLASS-324-240	
						US-PATENT-CLASS-324-262	
						US-PATENT-CLASS-73-37.5	
						US-PATENT-4,551,677	
						N86-32736* #	
						c 37	NASA-CASE-MFS-19796-1
						US-PATENT-APPL-SN-770920	
						US-PATENT-CLASS-138-97	
						US-PATENT-CLASS-165-76	
						US-PATENT-CLASS-228-119	
						US-PATENT-CLASS-29-402.16	



N86-32737*	c 37	US-PATENT-4,605,155 NASA-CASE-LAR-13081-1 US-PATENT-APPL-SN-760378 US-PATENT-CLASS-52-111 US-PATENT-CLASS-52-632 US-PATENT-CLASS-52-645 US-PATENT-CLASS-52-646 US-PATENT-4,604,844	N87-14559*	c 32	US-PATENT-4,624,888 NASA-CASE-LAR-13310-1 US-PATENT-APPL-SN-709257 US-PATENT-CLASS-356-5 US-PATENT-CLASS-367-99 US-PATENT-CLASS-73-597 US-PATENT-CLASS-73-615 US-PATENT-4,624,142	N87-16908*	c 27	US-PATENT-4,638,083 NASA-CASE-ARC-11429-3CU US-PATENT-APPL-SN-725725 US-PATENT-CLASS-546-339 US-PATENT-CLASS-546-346 US-PATENT-CLASS-546-350 US-PATENT-4,626,593
N86-32738*	c 37	NASA-CASE-MFS-28059-1 US-PATENT-APPL-SN-709255 US-PATENT-CLASS-417-475 US-PATENT-4,604,038	N87-14594*	c 33	NASA-CASE-NPO-16299-1 US-PATENT-APPL-SN-541526 US-PATENT-CLASS-356-389 US-PATENT-4,623,255	N87-16909*	c 27	NASA-CASE-ARC-11428-2 US-PATENT-APPL-SN-760374 US-PATENT-CLASS-428-421 US-PATENT-CLASS-428-473.5 US-PATENT-CLASS-428-500 US-PATENT-CLASS-428-704 US-PATENT-CLASS-528-168 US-PATENT-CLASS-528-321 US-PATENT-CLASS-528-322 US-PATENT-4,634,759
N86-32875*	c 44	NASA-CASE-LEW-14177-1 US-PATENT-APPL-SN-669140 US-PATENT-CLASS-136-261 US-PATENT-CLASS-148-1.5 US-PATENT-CLASS-29-572 US-PATENT-CLASS-29-576B US-PATENT-CLASS-357-30 US-PATENT-CLASS-357-91 US-PATENT-4,608,452	N87-14669*	c 35	NASA-CASE-LAR-13268-1 US-PATENT-APPL-SN-727034 US-PATENT-CLASS-356-28.5 US-PATENT-CLASS-356-301 US-PATENT-4,624,561	N87-16918*	c 31	NASA-CASE-ARC-11363-1 US-PATENT-APPL-SN-500046 US-PATENT-CLASS-52-126.5 US-PATENT-CLASS-52-309.15 US-PATENT-CLASS-52-391 US-PATENT-CLASS-52-511 US-PATENT-CLASS-52-814 US-PATENT-4,637,181
N86-33127*	c 72	NASA-CASE-NPO-16372-1 US-PATENT-APPL-SN-703847 US-PATENT-CLASS-250-336.1 US-PATENT-CLASS-250-338 US-PATENT-CLASS-250-340 US-PATENT-4,600,840	N87-14671*	c 35	NASA-CASE-GSC-12956-1 US-PATENT-APPL-SN-745977 US-PATENT-CLASS-148-187 US-PATENT-CLASS-148-188 US-PATENT-CLASS-148-189 US-PATENT-CLASS-148-190 US-PATENT-CLASS-29-580 US-PATENT-CLASS-29-591 US-PATENT-4,618,380	N87-17026*	c 36	NASA-CASE-ARC-11547-1 US-PATENT-APPL-SN-692745 US-PATENT-CLASS-356-28 US-PATENT-CLASS-356-28.5 US-PATENT-4,632,548
N86-33138* #	c 74	NAS 1.71:NPO-16869 NASA-CASE-NPO-16869-1CU US-PATENT-APPL-SN-867986	N87-14704* #	c 37	NAS 1.71:NPO-16892-1CU NASA-CASE-NPO-16892-1CU US-PATENT-APPL-SN-921573	N87-17034*	c 37	NASA-CASE-NPO-16321-1CU US-PATENT-APPL-SN-692802 US-PATENT-CLASS-305-36 US-PATENT-CLASS-305-51 US-PATENT-CLASS-305-58PC US-PATENT-CLASS-305-58R US-PATENT-CLASS-474-220 US-PATENT-4,626,046
N87-10174* #	c 20	NAS 1.71:LEW-14338-1 NASA-CASE-LEW-14338-1 US-PATENT-APPL-SN-897239	N87-14863* #	c 60	NAS 1.71:MSC-20964-1 NASA-CASE-MS-20964-1 US-PATENT-APPL-SN-878916	N87-17035*	c 37	NASA-CASE-MS-20857-1 US-PATENT-APPL-SN-783886 US-PATENT-CLASS-134-166C US-PATENT-CLASS-134-93 US-PATENT-CLASS-210-282 US-PATENT-4,635,663
N87-10231* #	c 33	NAS 1.71:NPO-16784-1 NASA-CASE-NPO-16784-1 US-PATENT-APPL-SN-879757	N87-14971*	c 74	NASA-CASE-MFS-26000-1 US-PATENT-APPL-SN-571615 US-PATENT-CLASS-356-246 US-PATENT-CLASS-372-61 US-PATENT-4,614,428	N87-17036*	c 37	NASA-CASE-MS-20162-1 US-PATENT-APPL-SN-764805 US-PATENT-CLASS-135-903 US-PATENT-CLASS-160-23R US-PATENT-CLASS-160-265 US-PATENT-CLASS-244-121 US-PATENT-CLASS-244-158R US-PATENT-CLASS-296-100 US-PATENT-4,637,447
N87-13313*	c 76	NASA-CASE-NPO-16045-1 US-PATENT-APPL-SN-641146 US-PATENT-CLASS-250-338 US-PATENT-CLASS-250-370 US-PATENT-CLASS-357-23.1 US-PATENT-CLASS-357-23.12 US-PATENT-CLASS-357-29 US-PATENT-CLASS-357-30 US-PATENT-CLASS-357-52 US-PATENT-4,605,946	N87-15304*	c 27	NASA-CASE-ARC-11429-4CU US-PATENT-APPL-SN-725686 US-PATENT-CLASS-525-282 US-PATENT-4,618,652	N87-17037*	c 37	NASA-CASE-MS-20475-1 US-PATENT-APPL-SN-725689 US-PATENT-CLASS-192-46 US-PATENT-CLASS-192-67R US-PATENT-4,635,773
N87-14314*	c 05	NASA-CASE-LAR-13173-1 US-PATENT-APPL-SN-690274 US-PATENT-CLASS-244-118.1 US-PATENT-CLASS-244-137-A US-PATENT-CLASS-244-17.27 US-PATENT-CLASS-248-638 US-PATENT-CLASS-89-1.54 US-PATENT-4,616,793	N87-15327* #	c 31	NAS 1.71:NPO-16901-1CU NASA-CASE-NPO-16901-1CU US-PATENT-APPL-SN-921574	N87-17038*	c 37	NASA-CASE-GSC-12957-1 US-PATENT-APPL-SN-800193 US-PATENT-CLASS-310-90.5 US-PATENT-4,634,191
N87-14355*	c 09	NASA-CASE-MFS-28057-1 US-PATENT-APPL-SN-729766 US-PATENT-CLASS-350-319 US-PATENT-4,618,215	N87-15390* #	c 32	NAS 1.71:NPO-16632-1CU NASA-CASE-NPO-16632-1CU US-PATENT-APPL-SN-890586	N87-17399*	c 44	NASA-CASE-NPO-16526-1CU US-PATENT-APPL-SN-809975 US-PATENT-CLASS-136-249 US-PATENT-4,631,352
N87-14373*	c 18	NASA-CASE-MS-20635-1 US-PATENT-APPL-SN-588039 US-PATENT-CLASS-16-294 US-PATENT-CLASS-16-370 US-PATENT-CLASS-403-102 US-PATENT-CLASS-403-119 US-PATENT-CLASS-403-146 US-PATENT-CLASS-403-163 US-PATENT-CLASS-403-85 US-PATENT-4,615,637	N87-15413* #	c 33	NAS 1.71:NPO-16932-1 NASA-CASE-NPO-16932-1CU US-PATENT-APPL-SN-913433	N87-17493*	c 74	NASA-CASE-MFS-29134-1 US-PATENT-APPL-SN-783890 US-PATENT-CLASS-219-124.34 US-PATENT-CLASS-219-130.01 US-PATENT-4,633,060
N87-14413* #	c 18	NAS 1.71:LAR-13490-1 NASA-CASE-LAR-13490-1 US-PATENT-APPL-SN-899683	N87-15465* #	c 37	NAS 1.71:MSC-20761-1 NASA-CASE-MS-20761-1 US-PATENT-APPL-SN-313446	N87-18613* #	c 24	NAS 1.71:LAR-13562-1 NASA-CASE-LAR-13562-1 US-PATENT-APPL-SN-921572
N87-14420*	c 20	NASA-CASE-MFS-25989-1 US-PATENT-APPL-SN-690273 US-PATENT-CLASS-239-132.5 US-PATENT-CLASS-239-403 US-PATENT-CLASS-239-425 US-PATENT-CLASS-60-258 US-PATENT-CLASS-60-746 US-PATENT-4,621,492	N87-15582*	c 76	NASA-CASE-NPO-15813-2 US-PATENT-APPL-SN-706564 US-PATENT-CLASS-148-174 US-PATENT-CLASS-148-175 US-PATENT-CLASS-29-575 US-PATENT-CLASS-29-576-E US-PATENT-CLASS-29-576-J US-PATENT-CLASS-29-576-W US-PATENT-CLASS-29-578 US-PATENT-4,612,072	N87-18679* #	c 29	NAS 1.71:MFS-28139-1 NASA-CASE-MFS-28139-1 US-PATENT-APPL-SN-911851
N87-14433*	c 23	NAS 1.71:LEW-14346-1 NASA-CASE-LEW-14346-1 US-PATENT-APPL-SN-934470	N87-16828*	c 07	NASA-CASE-LAR-13134-2 US-PATENT-APPL-SN-846462 US-PATENT-CLASS-244-130 US-PATENT-CLASS-244-135R US-PATENT-4,619,423	N87-18692* #	c 32	NAS 1.71:MSC-20865-1 NASA-CASE-MS-20865-1 US-PATENT-APPL-SN-924472
N87-14482*	c 26	NASA-CASE-LEW-13834-1 US-PATENT-APPL-SN-478131 US-PATENT-CLASS-148-429 US-PATENT-CLASS-420-460 US-PATENT-4,610,736	N87-16863*	c 17	NASA-CASE-LAR-13006-1 US-PATENT-APPL-SN-470113 US-PATENT-CLASS-340-825.5 US-PATENT-CLASS-340-870.18 US-PATENT-CLASS-371-63 US-PATENT-CLASS-375-88 US-PATENT-4,631,538	N87-18817* #	c 37	NAS 1.71:MFS-28161-1 NASA-CASE-MFS-28161-1 US-PATENT-APPL-SN-942159
N87-14515*	c 27	NASA-CASE-LAR-13316-2 US-PATENT-APPL-SN-760791 US-PATENT-CLASS-260-544-P US-PATENT-4,622,182	N87-16875*	c 20	NASA-CASE-LEW-14037-1 US-PATENT-APPL-SN-636463 US-PATENT-CLASS-219-275 US-PATENT-CLASS-60-203.1 US-PATENT-4,608,821	N87-18818* #	c 37	NAS 1.71:MSC-20907-1 NASA-CASE-MS-20907-1 US-PATENT-APPL-SN-927992
N87-14516*	c 27	NASA-CASE-LAR-13318-1 US-PATENT-APPL-SN-781813 US-PATENT-CLASS-428-262 US-PATENT-CLASS-428-447 US-PATENT-CLASS-528-26	N87-16907*	c 27	NASA-CASE-LAR-13118-2 US-PATENT-APPL-SN-760797 US-PATENT-CLASS-560-104	N87-19021* #	c 62	NAS 1.71:NPO-16949-1CU NASA-CASE-NPO-16949-1CU US-PATENT-APPL-SN-927987
						N87-20999*	c 08	NASA-CASE-LAR-13280-1 US-PATENT-APPL-SN-790556 US-PATENT-CLASS-244-76-R US-PATENT-CLASS-340-967 US-PATENT-4,648,569
						N87-21111*	c 27	NASA-CASE-MFS-28090-1 US-PATENT-APPL-SN-805012

		US-PATENT-CLASS-65-13				US-PATENT-CLASS-228-124				US-PATENT-APPL-SN-683111
		US-PATENT-CLASS-65-134				US-PATENT-CLASS-228-208				US-PATENT-CLASS-324-158-D
		US-PATENT-CLASS-65-136				US-PATENT-CLASS-228-209				US-PATENT-CLASS-324-158-R
		US-PATENT-CLASS-65-2				US-PATENT-CLASS-427-229				US-PATENT-4,661,770
		US-PATENT-4,654,065				US-PATENT-4,650,108				NASA-CASE-GSC-12961-1
N87-21112*	c 27	NASA-CASE-ARC-11511-2	N87-21410*	c 44	NASA-CASE-MFS-25978-1	N87-22895*	c 33	NASA-CASE-APPL-SN-754707		US-PATENT-CLASS-307-490
		US-PATENT-APPL-SN-754362			US-PATENT-APPL-SN-636459			US-PATENT-CLASS-330-107		US-PATENT-CLASS-330-294
		US-PATENT-CLASS-528-220			US-PATENT-CLASS-307-131			US-PATENT-CLASS-331-177-R		US-PATENT-CLASS-333-214
		US-PATENT-CLASS-528-229			US-PATENT-CLASS-307-31			US-PATENT-CLASS-333-217		US-PATENT-4,644,306
		US-PATENT-CLASS-528-322			US-PATENT-CLASS-307-64			NASA-CASE-MSC-20841-1		US-PATENT-APPL-SN-755288
		US-PATENT-CLASS-528-327			US-PATENT-CLASS-307-66			US-PATENT-CLASS-165-104.14		US-PATENT-CLASS-165-104.25
		US-PATENT-CLASS-528-331			US-PATENT-CLASS-307-80			US-PATENT-CLASS-165-104.26		US-PATENT-CLASS-165-34
		US-PATENT-CLASS-528-362			US-PATENT-CLASS-318-107			US-PATENT-CLASS-165-34.5		US-PATENT-4,662,220
		US-PATENT-4,649,189			US-PATENT-CLASS-318-161	N87-22950*	c 34	NASA-CASE-LAR-13009-2		US-PATENT-APPL-SN-495380
N87-21159*	c 31	NASA-CASE-NPO-16393-1-CU	N87-21591*	c 60	NASA-CASE-NPO-15982-1			US-PATENT-APPL-SN-698279		US-PATENT-CLASS-411-166
		US-PATENT-APPL-SN-701486			US-PATENT-APPL-SN-673685			US-PATENT-CLASS-411-368		US-PATENT-CLASS-411-424
		US-PATENT-CLASS-62-384			US-PATENT-CLASS-371-37			US-PATENT-CLASS-411-427		US-PATENT-CLASS-411-531
		US-PATENT-CLASS-62-48			US-PATENT-CLASS-371-40			US-PATENT-4,572,699		US-PATENT-4,650,385
		US-PATENT-CLASS-62-514-R			US-PATENT-4,649,541			NASA-CASE-MFS-25964-2		US-PATENT-APPL-SN-692801
		US-PATENT-4,641,499	N87-21652*	c 71	NASA-CASE-LAR-13111-1-CU	N87-22953*	c 35	US-PATENT-APPL-SN-853361		US-PATENT-CLASS-285-305
N87-21160*	c 31	NASA-CASE-LEW-13899-1			US-PATENT-APPL-SN-751695			US-PATENT-CLASS-285-81		US-PATENT-CLASS-285-85
		US-PATENT-APPL-SN-775968			US-PATENT-CLASS-73-583			US-PATENT-CLASS-285-91		US-PATENT-4,655,482
		US-PATENT-CLASS-156-345			US-PATENT-CLASS-73-589			NASA-CASE-MSC-20979-1		US-PATENT-APPL-SN-796053
		US-PATENT-CLASS-156-643			US-PATENT-CLASS-73-599			US-PATENT-CLASS-244-161		US-PATENT-4,664,344
		US-PATENT-CLASS-156-659.1			US-PATENT-4,644,794			NASA-CASE-NPO-16558-1-CU		US-PATENT-APPL-SN-779744
		US-PATENT-CLASS-156-661.1	N87-21653*	c 71	NASA-CASE-LAR-13440-1			US-PATENT-CLASS-250-231-GY		US-PATENT-CLASS-356-350
		US-PATENT-CLASS-156-504			US-PATENT-APPL-SN-775989	N87-22976*	c 37	US-PATENT-4,662,751		NASA-CASE-NPO-15800-2
		US-PATENT-CLASS-204-298			US-PATENT-CLASS-73-1-DV			US-PATENT-CLASS-442815		US-PATENT-APPL-SN-674395
		US-PATENT-4,620,898			US-PATENT-CLASS-73-599			US-PATENT-CLASS-156-607		US-PATENT-CLASS-156-617-H
N87-21206*	c 32	NASA-CASE-LAR-13455-1	N87-21660*	c 72	US-PATENT-4,649,750			US-PATENT-CLASS-156-617-SP		US-PATENT-4,654,110
		US-PATENT-APPL-SN-804040			NASA-CASE-NPO-16061-1-CU			NASA-CASE-ARC-11633-1		US-PATENT-APPL-SN-846439
		US-PATENT-CLASS-250-341			US-PATENT-APPL-SN-729768			US-PATENT-CLASS-416-114		US-PATENT-CLASS-416-158
		US-PATENT-CLASS-374-122			US-PATENT-CLASS-250-288			US-PATENT-4,669,958		NASA-CASE-ARC-11643-1-SB
		US-PATENT-CLASS-374-9			US-PATENT-CLASS-250-423-R			US-PATENT-APPL-SN-901496		US-PATENT-CLASS-423-276
		US-PATENT-4,645,358			US-PATENT-CLASS-250-424			US-PATENT-CLASS-423-284		US-PATENT-4,676,962
N87-21207*	c 32	NASA-CASE-NPO-16256-1			US-PATENT-CLASS-250-427	N87-22977*	c 37	US-PATENT-CLASS-13597-1-CU		US-PATENT-APPL-SN-008199
		US-PATENT-APPL-SN-638586			US-PATENT-CLASS-313-359.1			US-PATENT-APPL-SN-14072-3		US-PATENT-CLASS-428-421
		US-PATENT-CLASS-329-107			US-PATENT-CLASS-313-361.1			US-PATENT-CLASS-428-422		US-PATENT-CLASS-428-447
		US-PATENT-CLASS-375-110			US-PATENT-CLASS-313-362.1			US-PATENT-CLASS-428-473.5		US-PATENT-CLASS-428-702
		US-PATENT-CLASS-375-120			US-PATENT-4,649,278			US-PATENT-4,664,980		NAS 1.71-ARC-11652-1
		US-PATENT-CLASS-375-23	N87-21661*	c 72	NASA-CASE-NPO-16640-1-CU			US-PATENT-APPL-SN-008242		NASA-CASE-ARC-11653-1
		US-PATENT-CLASS-455-608			US-PATENT-APPL-SN-852468			US-PATENT-APPL-SN-641147		US-PATENT-APPL-SN-548-413
		US-PATENT-4,648,133			US-PATENT-CLASS-250-251			US-PATENT-4,670,565		NASA-CASE-NPO-16467-1-CU
N87-21232*	c 33	NASA-CASE-GSC-13018-1			US-PATENT-CLASS-250-396-R	N87-22985*	c 37	US-PATENT-CLASS-838648		US-PATENT-CLASS-136-249
		US-PATENT-APPL-SN-862959			US-PATENT-CLASS-250-423-P			US-PATENT-CLASS-136-255		US-PATENT-CLASS-357-30
		US-PATENT-CLASS-331-116-R			US-PATENT-CLASS-376-127			US-PATENT-CLASS-357-35		US-PATENT-4,665,277
		US-PATENT-CLASS-331-117-R			US-PATENT-4,649,273			NASA-CASE-GSC-12773-2		US-PATENT-APPL-SN-809851
		US-PATENT-CLASS-331-56	N87-21679*	c 74	NASA-CASE-GSC-12897-1	N87-23259*	c 74			
		US-PATENT-4,660,000			US-PATENT-APPL-SN-606432					
N87-21233*	c 33	NASA-CASE-MFS-28080-1			US-PATENT-CLASS-350-6.5					
		US-PATENT-APPL-SN-775548			US-PATENT-4,647,144					
		US-PATENT-CLASS-318-138	N87-21755*	c 85	NASA-CASE-KSC-11282-1					
		US-PATENT-CLASS-318-254			US-PATENT-APPL-SN-751644					
		US-PATENT-CLASS-318-439			US-PATENT-CLASS-180-19.2	N87-23286*	c 76			
		US-PATENT-4,644,234			US-PATENT-CLASS-180-305					
N87-21234*	c 33	NASA-CASE-LEW-13935-1			US-PATENT-CLASS-280-47.11					
		US-PATENT-APPL-SN-700255			US-PATENT-CLASS-296-20					
		US-PATENT-CLASS-250-423-R			US-PATENT-CLASS-5-81-R					
		US-PATENT-CLASS-315-111.81			US-PATENT-CLASS-60-415					
		US-PATENT-4,642,523			US-PATENT-4,646,860					
N87-21235*	c 33	NASA-CASE-LAR-13151-1	N87-22678*	c 06	NASA-CASE-LAR-12984-1	N87-23631*	c 08			
		US-PATENT-APPL-SN-683101			US-PATENT-APPL-SN-578387					
		US-PATENT-CLASS-307-261			US-PATENT-CLASS-244-1-R					
		US-PATENT-CLASS-307-354			US-PATENT-CLASS-340-945					
		US-PATENT-CLASS-328-147			US-PATENT-CLASS-340-971	N87-23698*	c 23			
		US-PATENT-CLASS-328-164			US-PATENT-CLASS-340-975					
		US-PATENT-CLASS-328-28			US-PATENT-CLASS-73-178-R					
		US-PATENT-4,652,833			US-PATENT-4,663,627					
N87-21255*	c 34	NASA-CASE-ARC-11631-1	N87-22845*	c 27	NASA-CASE-ARC-11429-2-CU					
		US-PATENT-APPL-SN-846428			US-PATENT-APPL-SN-553339	N87-23713* #	c 25			
		US-PATENT-CLASS-239-426			US-PATENT-APPL-SN-725727					
		US-PATENT-CLASS-239-434			US-PATENT-CLASS-524-404	N87-23736*	c 27			
		US-PATENT-CLASS-239-545			US-PATENT-CLASS-524-548					
		US-PATENT-CLASS-73-147			US-PATENT-CLASS-525-182					
		US-PATENT-4,648,267			US-PATENT-CLASS-526-262					
N87-21304*	c 35	NASA-CASE-NPO-15617-1			US-PATENT-4,526,925					
		US-PATENT-APPL-SN-403849			US-PATENT-4,647,615					
		US-PATENT-CLASS-74-424.8-R	N87-22847*	c 27	NASA-CASE-LAR-13444-1-CU					
		US-PATENT-CLASS-74-441			US-PATENT-APPL-SN-734366					
		US-PATENT-CLASS-74-458			US-PATENT-CLASS-528-229	N87-23737* #	c 27			
		US-PATENT-CLASS-74-468			US-PATENT-CLASS-546-262					
		US-PATENT-CLASS-74-89.15			US-PATENT-CLASS-546-264					
		US-PATENT-4,586,394			US-PATENT-CLASS-564-330					
N87-21332*	c 37	NASA-CASE-MFS-28058-1			US-PATENT-CLASS-564-396	N87-23751*	c 27			
		US-PATENT-APPL-SN-751691			US-PATENT-CLASS-564-430					
		US-PATENT-CLASS-137-606			US-PATENT-4,663,483					
		US-PATENT-CLASS-251-165	N87-22848*	c 27	NASA-CASE-LAR-13452-1					
		US-PATENT-4,657,044			US-PATENT-APPL-SN-838655	N87-23879*	c 33			
N87-21333*	c 37	NASA-CASE-MFS-25956-1			US-PATENT-CLASS-525-36					
		US-PATENT-APPL-SN-580397			US-PATENT-CLASS-528-176					
		US-PATENT-CLASS-248-316.4			US-PATENT-CLASS-528-184					
		US-PATENT-CLASS-248-550			US-PATENT-CLASS-528-192					
		US-PATENT-4,582,289			US-PATENT-CLASS-528-193					
N87-21334*	c 37	NASA-CASE-NPO-16423-1-CU			US-PATENT-4,661,558					
		US-PATENT-APPL-SN-765978	N87-22894*	c 33	NASA-CASE-NPO-16337-1-CU	N87-23904*	c 33			

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N88-23979*	c 37	NASA-CASE-MFS-28185-1 US-PATENT-APPL-SN-056930 US-PATENT-CLASS-294-106 US-PATENT-CLASS-294-113 US-PATENT-CLASS-294-119.2 US-PATENT-CLASS-294-16 US-PATENT-CLASS-4,723,800	N88-24660* #	c 16	NAS 1.71:MSC-21330-1 NASA-CASE-MSC-21330-1 US-PATENT-APPL-SN-182000	N88-24971* #	c 37	NASA-CASE-MSC-21354-1 US-PATENT-APPL-SN-154712 NAS 1.71:MFS-28253-1 NASA-CASE-MFS-28253-1 US-PATENT-APPL-SN-165943
N88-23980*	c 37	NASA-CASE-MFS-29252-1 US-PATENT-APPL-SN-044181 US-PATENT-CLASS-219-137.42 US-PATENT-CLASS-219-75 US-PATENT-CLASS-4,749,839	N88-24662* #	c 17	NAS 1.71:MSC-21170-1 NASA-CASE-MSC-21170-1 US-PATENT-APPL-SN-182266	N88-24972* #	c 37	NAS 1.71:MFS-29260-1 NASA-CASE-MFS-29260-1 US-PATENT-APPL-SN-156059
N88-23981*	c 37	NASA-CASE-LAR-13435-1 US-PATENT-APPL-SN-890683 US-PATENT-CLASS-123-193-P US-PATENT-CLASS-92-176 US-PATENT-CLASS-92-212 US-PATENT-CLASS-92-214 US-PATENT-CLASS-92-222 US-PATENT-CLASS-92-224 US-PATENT-CLASS-4,736,676	N88-24671* #	c 18	NAS 1.71:MSC-21356-1 NASA-CASE-MSC-21356-1 US-PATENT-APPL-SN-165956	N88-24973* #	c 37	NAS 1.71:NPO-17354-1-CU NASA-CASE-NPO-17354-1-CU US-PATENT-APPL-SN-184236
N88-23982*	c 37	NASA-CASE-LAR-12801-1 US-PATENT-APPL-SN-309291 US-PATENT-CLASS-188-373 US-PATENT-CLASS-248-548 US-PATENT-CLASS-248-608 US-PATENT-CLASS-297-216 US-PATENT-CLASS-4,720,139	N88-24684* #	c 20	NAS 1.71:MSC-21299-1 NASA-CASE-MSC-21299-1 US-PATENT-APPL-SN-176587	N88-25011* #	c 39	NAS 1.71:LAR-13705-1 NASA-CASE-LAR-13705-1 US-PATENT-APPL-SN-203177
N88-23983* #	c 38	NAS 1.71:LAR-13724-1 NASA-CASE-LAR-13724-1 US-PATENT-APPL-SN-125678 NASA-CASE-MFS-26009-1-SB US-PATENT-APPL-SN-805011 US-PATENT-CLASS-108-3 US-PATENT-CLASS-108-7 US-PATENT-CLASS-312-196 US-PATENT-CLASS-312-208 US-PATENT-CLASS-312-300 US-PATENT-CLASS-312-7.2 US-PATENT-CLASS-4,725,106	N88-24685* #	c 20	NAS 1.71:LAR-13773-1 NASA-CASE-LAR-13773-1 US-PATENT-APPL-SN-165946	N88-25281* #	c 72	NAS 1.71:NPO-16789-1-CU NASA-CASE-NPO-16789-1-CU US-PATENT-APPL-SN-154713
N88-24163*	c 54	US-PATENT-CLASS-364-728 US-PATENT-CLASS-364-757 US-PATENT-CLASS-382-42 US-PATENT-CLASS-4,750,144	N88-24692* #	c 23	NASA-CASE-ARC-11428-3 US-PATENT-APPL-SN-599126 US-PATENT-APPL-SN-760374 US-PATENT-APPL-SN-924467 US-PATENT-CLASS-558-80 US-PATENT-CLASS-564-13 US-PATENT-CLASS-4,550,177 US-PATENT-CLASS-4,634,759 US-PATENT-CLASS-4,748,263	N88-25301* #	c 74	NAS 1.71:NPO-17139-1-CU NASA-CASE-NPO-17139-1-CU US-PATENT-APPL-SN-154718
N88-24169*	c 60	NASA-CASE-NPO-16462-1-CU US-PATENT-APPL-SN-815106 US-PATENT-CLASS-364-728 US-PATENT-CLASS-364-757 US-PATENT-CLASS-382-42 US-PATENT-CLASS-4,750,144	N88-24732* #	c 25	NASA-CASE-NPO-16907-1-CU US-PATENT-APPL-SN-930217 US-PATENT-CLASS-204-157.22 US-PATENT-CLASS-250-423-P US-PATENT-CLASS-250-427 US-PATENT-CLASS-4,704,197	N88-25302* #	c 74	NAS 1.71:LAR-13387-1 NASA-CASE-LAR-13387-1 US-PATENT-APPL-SN-154716
N88-24241*	c 71	NASA-CASE-NPO-16675-1-CU US-PATENT-APPL-SN-627537 US-PATENT-APPL-SN-789266 US-PATENT-CLASS-181-0.5 US-PATENT-CLASS-367-191 US-PATENT-CLASS-73-505 US-PATENT-CLASS-4,573,356 US-PATENT-CLASS-4,736,815	N88-24753* #	c 26	NAS 1.71:LAR-13924-1-CU NASA-CASE-LAR-13924-1-CU US-PATENT-APPL-SN-172102	N88-25303* #	c 74	NAS 1.71:MFS-29348-1 NASA-CASE-MFS-29348-1 US-PATENT-APPL-SN-156518
N88-24253*	c 72	NASA-CASE-MFS-28122-1 US-PATENT-APPL-SN-021100 US-PATENT-CLASS-250-251 US-PATENT-CLASS-250-423-R US-PATENT-CLASS-250-427 US-PATENT-CLASS-315-111.41 US-PATENT-CLASS-315-111.71 US-PATENT-CLASS-315-111.81 US-PATENT-CLASS-4,742,232	N88-24814* #	c 31	NAS 1.71:NPO-16985-1-CU NASA-CASE-NPO-16985-1-CU US-PATENT-APPL-SN-195222	N88-25304* #	c 74	NAS 1.71:NPO-17207-1-CU NASA-CASE-NPO-17207-1-CU US-PATENT-APPL-SN-190185
N88-24543*	c 76	NASA-CASE-NPO-16681-1-CU US-PATENT-APPL-SN-764812 US-PATENT-CLASS-204-192.15 US-PATENT-CLASS-204-192.24 US-PATENT-CLASS-4,726,890	N88-24817* #	c 31	NAS 1.71:MFS-28248-1 NASA-CASE-MFS-28248-1 US-PATENT-APPL-SN-176545	N88-25305* #	c 74	NAS 1.71:NPO-17144-1-CU NASA-CASE-NPO-17144-1-CU US-PATENT-APPL-SN-187716
N88-24544*	c 76	NASA-CASE-MFS-28137-1 US-PATENT-APPL-SN-925189 US-PATENT-CLASS-156-DIG.70 US-PATENT-CLASS-156-DIG.72 US-PATENT-CLASS-156-DIG.82 US-PATENT-CLASS-156-607 US-PATENT-CLASS-156-621 US-PATENT-CLASS-156-624 US-PATENT-CLASS-422-246 US-PATENT-CLASS-4,738,831	N88-24818* #	c 31	NAS 1.71:NPO-17278-1-CU NASA-CASE-NPO-17278-1-CU US-PATENT-APPL-SN-172100	N88-25355* #	c 76	NAS 1.71:LAR-13678-1 NASA-CASE-LAR-13678-1 US-PATENT-APPL-SN-176547
N88-24545*	c 76	NASA-CASE-MFS-28144-1 US-PATENT-APPL-SN-924399 US-PATENT-CLASS-156-DIG.70 US-PATENT-CLASS-156-DIG.72 US-PATENT-CLASS-156-DIG.82 US-PATENT-CLASS-156-DIG.84 US-PATENT-CLASS-156-DIG.89 US-PATENT-CLASS-156-DIG.92 US-PATENT-CLASS-156-620.76 US-PATENT-CLASS-4,740,264	N88-24845* #	c 32	NAS 1.71:LAR-13747-1 NASA-CASE-LAR-13747-1 US-PATENT-APPL-SN-197191	N88-25356* #	c 76	NAS 1.71:MFS-28206-1-SB NASA-CASE-MFS-28206-1-SB US-PATENT-APPL-SN-172101
N88-24620* #	c 04	NAS 1.71:LAR-13322-1 NASA-CASE-LAR-13322-1 US-PATENT-APPL-SN-195221	N88-24846* #	c 32	NAS 1.71:NPO-17325-1-CU NASA-CASE-NPO-17325-1-CU US-PATENT-APPL-SN-184235	N88-25357* #	c 76	NAS 1.71:MFS-28182-1 NASA-CASE-MFS-28182-1 US-PATENT-APPL-SN-161681
N88-24621* #	c 04	NAS 1.71:LAR-13854-1-CU NASA-CASE-LAR-13854-1-CU US-PATENT-APPL-SN-192562	N88-24862* #	c 33	NASA-CASE-NPO-16402-2 US-PATENT-APPL-SN-013803 US-PATENT-APPL-SN-727931 US-PATENT-CLASS-307-106 US-PATENT-CLASS-315-172 US-PATENT-CLASS-315-173 US-PATENT-CLASS-328-67 US-PATENT-CLASS-4,698,518	N88-25358* #	c 76	NAS 1.71:NPO-17259-1-CU NASA-CASE-NPO-17259-1-CU US-PATENT-APPL-SN-184234
N88-24628* #	c 05	NAS 1.71:LAR-13983-1 NASA-CASE-LAR-13983-1	N88-24863* #	c 33	NAS 1.71:NPO-16882-1-CU NASA-CASE-NPO-16882-1-CU US-PATENT-APPL-SN-154711	N88-26398* #	c 18	NASA-CASE-MSC-20985-1 US-PATENT-APPL-SN-904134 US-PATENT-CLASS-104-172.1 US-PATENT-CLASS-104-35 US-PATENT-CLASS-104-49 US-PATENT-CLASS-244-159 US-PATENT-CLASS-4,757,767
			N88-24941* #	c 35	NAS 1.71:MSC-21094-1 NASA-CASE-MSC-21094-1 US-PATENT-APPL-SN-156393	N88-26404* #	c 23	NASA-CASE-LEW-14345-1 US-PATENT-APPL-SN-924474 US-PATENT-CLASS-260-386 US-PATENT-CLASS-260-389 US-PATENT-CLASS-260-395 US-PATENT-CLASS-549-241 US-PATENT-CLASS-4,758,380
			N88-24942* #	c 35	NAS 1.71:LAR-13794-1 NASA-CASE-LAR-13794-1 US-PATENT-APPL-SN-168065	N88-26541* #	c 32	NAS 1.71:NPO-17184-1-CU NASA-CASE-NPO-17184-1-CU US-PATENT-APPL-SN-195225
			N88-24943* #	c 35	NAS 1.71:NPO-17024-1-CU NASA-CASE-NPO-17024-1-CU US-PATENT-APPL-SN-159613	N88-26568* #	c 32	NASA-CASE-MSC-20912-1 US-PATENT-APPL-SN-831193 US-PATENT-CLASS-342-125 US-PATENT-CLASS-342-127 US-PATENT-CLASS-342-43 US-PATENT-CLASS-342-51 US-PATENT-CLASS-4,757,315
			N88-24944* #	c 35	NAS 1.71:NPO-17390-1-CU NASA-CASE-NPO-17390-1-CU US-PATENT-APPL-SN-205899	N88-26596* #	c 33	NASA-CASE-NPO-17157-1-CU US-PATENT-APPL-SN-116810 US-PATENT-CLASS-331-162 US-PATENT-CLASS-331-3 US-PATENT-CLASS-331-94.1 US-PATENT-CLASS-4,757,278
			N88-24958* #	c 36	NASA-CASE-MSC-20667-1 US-PATENT-APPL-SN-045984 US-PATENT-CLASS-356-1 US-PATENT-CLASS-356-376 US-PATENT-CLASS-356-4 US-PATENT-CLASS-358-107 US-PATENT-CLASS-364-561 US-PATENT-CLASS-4,736,247	N88-27220* #	c 17	NAS 1.71:NPO-17280-1-CU NASA-CASE-NPO-17280-1-CU US-PATENT-APPL-SN-195226
			N88-24969* #	c 37	NAS 1.71:MSC-21354-1	N88-28914* #	c 05	NASA-CASE-ARC-11636-1 US-PATENT-APPL-SN-933963 US-PATENT-CLASS-244-12.3 US-PATENT-CLASS-244-12.4 US-PATENT-CLASS-244-207 US-PATENT-CLASS-244-45-A US-PATENT-CLASS-244-55 US-PATENT-CLASS-4,767,083
						N88-28938* #	c 09	NAS 1.71:MFS-28281-1 NASA-CASE-MFS-28281-1 US-PATENT-APPL-SN-205898
						N88-28939* #	c 09	NASA-CASE-LEW-14374-1 US-PATENT-APPL-SN-060200 US-PATENT-CLASS-219-383 US-PATENT-CLASS-363-97 US-PATENT-CLASS-60-203.1 US-PATENT-CLASS-4,766,724
						N88-28946* #	c 17	NAS 1.71:NPO-17310-1-CU NASA-CASE-NPO-17310-1-CU

N88-28958*	c 18	US-PATENT-APPL-SN-200874	N88-29181*	c 37	US-PATENT-4,763,459	N89-12667*	c 23	US-PATENT-4,772,175
		NASA-CASE-MSC-21117-1			NASA-CASE-MSC-21132-1			NASA-CASE-LAR-13444-2-CU
		US-PATENT-APPL-SN-929875			US-PATENT-APPL-SN-118992			US-PATENT-APPL-SN-000692
		US-PATENT-CLASS-52-646			US-PATENT-CLASS-188-218-XL			US-PATENT-CLASS-564-315
N88-29002*	c 25	US-PATENT-CLASS-52-648	N88-29310*	c 60	US-PATENT-CLASS-188-251-A	N89-12741*	c 27	US-PATENT-CLASS-564-323
		US-PATENT-4,765,114			US-PATENT-4,763,762			US-PATENT-CLASS-564-330
		NASA-CASE-LAR-13528-1			NASA-CASE-NPO-16116-2			US-PATENT-CLASS-564-342
		US-PATENT-APPL-SN-933962			US-PATENT-APPL-SN-004282			US-PATENT-CLASS-564-344
N88-29012* #	c 26	US-PATENT-CLASS-236-15-E	N88-29602* #	c 76	US-PATENT-APPL-SN-587749	N89-12785*	c 31	US-PATENT-CLASS-564-396
		US-PATENT-CLASS-364-500			US-PATENT-CLASS-364-200			US-PATENT-CLASS-564-430
		US-PATENT-CLASS-364-557			US-PATENT-4,766,533			US-PATENT-4,774,359
		US-PATENT-CLASS-364-571			NAS 1.71:MFS-28282-1			NASA-CASE-LAR-13506-1
N88-29040*	c 27	US-PATENT-CLASS-374-36	N88-29789* #	c 05	NASA-CASE-MFS-28282-1	N89-12786*	c 31	US-PATENT-APPL-SN-060182
		US-PATENT-CLASS-431-13			US-PATENT-APPL-SN-217533			US-PATENT-CLASS-156-297
		US-PATENT-CLASS-431-76			NAS 1.71:AR-13777-1			US-PATENT-CLASS-156-299
		US-PATENT-4,761,744			NASA-CASE-LAR-13777-1			US-PATENT-CLASS-428-44
N88-29048* #	c 29	NAS 1.71:AR-13817-1	N88-29888* #	c 24	US-PATENT-APPL-SN-210480	N89-12841*	c 35	US-PATENT-CLASS-428-47
		NASA-CASE-LAR-13817-1			NAS 1.71:LEW-14698-1			US-PATENT-CLASS-428-58
		US-PATENT-APPL-SN-210486			NASA-CASE-LEW-14698-1			US-PATENT-CLASS-428-71
		NASA-CASE-ARC-11649-1-SB			US-PATENT-APPL-SN-219016			US-PATENT-CLASS-428-76
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		US-PATENT-CLASS-528-4			NASA-CASE-LAR-13740-1			US-PATENT-4,771,823
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			US-PATENT-CLASS-165-104.14				
			US-PATENT-CLASS-165-104.26				

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The NASA Patent Counsel having cognizance of the invention is determined by the first three letters or prefix of the NASA Case Number assigned to the invention. The addresses of NASA Patent Counsels are listed alongside the NASA Case Number prefix letters in the following table.

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# PATENT LICENSING REGULATIONS

## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

### 14 CFR Part 1245

#### Licensing of NASA Inventions

**AGENCY:** National Aeronautics and Space Administration

**ACTION:** Interim regulation with comments requested.

**SUMMARY:** The National Aeronautics and Space Administration (NASA) is revising its patent licensing regulations to conform with Pub. L. 96-517. This interim regulation provides policies and procedures applicable to the licensing of federally owned inventions in the custody of the National Aeronautics and Space Administration, and implements Pub. L. 96-517. The object of this subpart is to use the patent system to promote the utilization of inventions arising from NASA supported research and development.

**EFFECTIVE DATE:** July 1, 1981. Comments must be received in writing by December 2, 1981. Unless a notice is published in the **Federal Register** after the comment period indicating changes to be made, this interim regulation shall become a final regulation.

**ADDRESS:** Mr. John G. Mannix, Director of Patent Licensing, GP-4, NASA, Washington, D.C. 20546

**FOR FURTHER INFORMATION CONTACT:**

Mr. John G. Mannix, (202) 755-3954.

**SUPPLEMENTARY INFORMATION:**

#### PART 1245—PATENTS AND OTHER INTELLECTUAL PROPERTY RIGHTS

Subpart 2 of Part 1245 is revised to read as follows:

##### Subpart 2—Licensing of NASA Inventions

Sec.

1245.200 Scope of subpart.

1245.201 Policy and objective.

1245.202 Definitions.

1245.203 Authority to grant licenses.

##### Restrictions and Conditions

1245.204 All licenses granted under this subpart.

##### Types of Licenses

1245.205 Nonexclusive licenses.

1245.206 Exclusive and partially exclusive licenses.

##### Procedures

1245.207 Application for a license.

1245.208 Processing applications.

1245.209 Notice to Attorney General.

1245.210 Modification and termination of licenses.

1245.211 Appeals.

1245.212 Protection and administration of inventions.

1245.213 Transfer of custody.

1245.214 Confidentiality of information.

**Authority:** 35 U.S.C. Section 207 and 208.94 Stat 3023 and 3024.

##### Subpart 2—Licensing of NASA Inventions

###### § 1245.200 Scope of subpart.

This subpart prescribes the terms, conditions and procedures upon which a NASA invention may be licensed. It does not affect licenses which (a) were in effect prior to July 1, 1981; (b) may exist at the time of the Government's acquisition of title to the invention, including those resulting from the allocation of rights to inventions made under Government research and development contracts; (c) are the result of an authorized exchange of rights in the settlement of patent disputes; or (d) are otherwise authorized by law or treaty.

###### § 1245.201 Policy and objective.

It is the policy and objective of this subpart to use the patent system to promote the utilization of inventions arising from NASA supported research and development.

###### § 1245.202 Definitions

(a) "Federally owned invention" means an invention, plant, or design which is covered by a patent, or patent application in the United States, or a patent, patent application, plant variety protection, or other form of protection, in a foreign country, title to which has been assigned to or otherwise vested in the United States Government.

(b) "Federal agency" means an executive department, military department, Government corporation, or independent establishment, except the Tennessee Valley Authority, which has custody of a Federally owned invention.

(c) "NASA Invention" means a Federally owned invention with respect to which NASA maintains custody and administration, in whole or in part, of the right, title or interest in such invention on behalf of the United States Government.

(d) "Small business firm" means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of these regulations, the size standard for small business concerns involved in Government procurement, contained in 13 CFR 121.3-8, and in subcontracting, contained in 13 CFR 121.3-12, will be used.

(e) "Practical application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such condition, as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

(f) "United States" means the United States of America, its territories and possessions, the District of Columbia, and the Commonwealth of Puerto Rico.

###### § 1245.203 Authority to grant licenses.

NASA inventions shall be made available for licensing as deemed appropriate in the public interest. NASA may grant nonexclusive, partially exclusive, or exclusive licenses thereto under this subpart on inventions in its custody.

##### Restrictions and Conditions

###### § 1245.204 All licenses granted under this subpart.

(a) *Restrictions.* (1) A license may be granted only if the applicant has supplied NASA with a satisfactory plan for development or marketing of the invention, or both, and with information about the applicant's capability to fulfill the plan.

(2) A license granting rights to use or sell under a NASA invention in the United States shall normally be granted only to a licensee who agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

(b) *Conditions.* Licenses shall contain such terms and conditions as NASA determines are appropriate for the protection of the interests of the Federal Government and the public and are not in conflict with law or this subpart. The following terms and conditions apply to any license:

(1) The duration of the license shall be for a period specified in the license agreement, unless sooner terminated in accordance with this subpart.

(2) The license may be granted for all or less than all fields of use of the invention or in specified geographical areas, or both.

(3) The license may extend to subsidiaries of the licensee or other parties if provided for in the license but shall be nonassignable without approval of NASA, except to the successor of that part of the licensee's business to which the invention pertains.

(4) The license may provide the licensee the right to grant sublicenses under the license, subject to the approval of NASA. Each sublicense shall make reference to the license, including the rights retained by the Government, and a copy of such sublicense shall be furnished to NASA.

(b) The license shall require the licensee to carry out the plan for development or marketing of the invention, or both, to bring the invention to practical application within a period specified in the license, and to continue to make the benefits of the invention reasonably accessible to the public.

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(6) The license shall require the licensee to report periodically on the utilization or efforts at obtaining utilization that are being made by the licensee, with particular reference to the plan submitted.

(7) All licenses shall normally require royalties or other consideration.

(8) Where an agreement is obtained pursuant to § 1245.204(a)(2) that any products embodying the invention or produced through use of the invention will be manufactured substantially in the United States, the license shall recite such agreement.

(9) The license shall provide for the right of NASA to terminate the license, in whole or in part, if:

(i) NASA determines that the licensee is not executing the plan submitted with its request for a license and the licensee cannot otherwise demonstrate to the satisfaction of NASA that it has taken or can be expected to take within a reasonable time effective steps to achieve practical application of the invention;

(ii) NASA determines that such action is necessary to meet requirements for public use specified by Federal regulations issued after the date of the license and such requirements are not reasonably satisfied by the licensee;

(iii) The licensee has willfully made a false statement of or willfully omitted a material fact in the license application or in any report required by the license agreement; or

(iv) The licensee commits a substantial breach of a covenant or agreement contained in the license.

(10) The license may be modified or terminated, consistent with this subpart, upon mutual agreement of NASA and the licensee.

(11) Nothing relating to the grant of a license, nor the grant itself, shall be construed to confer upon any person any immunity from or defenses under the antitrust laws or from a charge of patent misuse, and the acquisition and use of rights pursuant to this subpart shall not be immunized from the operation of state or Federal law by reason of the source of the grant.

### Types of Licenses

#### § 1245.205 Nonexclusive licenses.

(a) *Availability of licenses.* Nonexclusive licenses may be granted under NASA inventions without publication of availability or notice of a prospective license.

(b) *Conditions.* In addition to the provisions of § 1245.204, the nonexclusive license may also provide that, after termination of a period specified in the license agreement, NASA may restrict the license to the fields of use or geographic areas, or both, in which the licensee has brought the invention to practical application and continues to make the benefits of the invention reasonably accessible to the public. However, such restriction shall be made only in order to grant an exclusive or partially exclusive license in accordance with this subpart.

#### § 1245.206 Exclusive and partially exclusive licenses.

(a) Domestic licenses.

(1) *Availability of licenses.* Exclusive or partially exclusive licenses may be granted on NASA inventions: (i) 3 months after notice of the invention's availability has been announced in the **Federal Register**; or (ii) without such notice where NASA determines that expeditious granting of such a license will best serve the interests of the Federal Government and the public; and (iii) in either situation, specified in (a)(1)(i) or (ii) of this section only if:

(A) Notice of a prospective license, identifying the invention and the prospective licensee, has been published in the **Federal Register**, providing opportunity for filing written objections within a 60-day period;

(B) After expiration of the period in § 1245.206(a)(1)(iii)(A) and consideration of any written objections received during the period, NASA has determined that:

(1) The interests of the Federal Government and the public will best be served by the proposed license, in view of the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public;

(2) The desired practical application has not been achieved, or is not likely expeditiously to be achieved, under any nonexclusive license which has been granted, or which may be granted, on the invention;

(3) Exclusive or partially exclusive licensing is a reasonable and necessary incentive to call forth the investment of risk capital and expenditures to bring the invention to practical application or otherwise promote the invention's utilization by the public; and

(4) The proposed terms and scope of exclusivity are not greater than reasonably necessary to provide the incentive for bringing the invention to practical application or otherwise promote the invention's utilization by the public;

(C) NASA has not determined that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the country in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with the antitrust laws; and

(D) NASA has given first preference to any small business firms submitting plans that are determined by the agency to be within the capabilities of the firms and as equally likely, if executed, to bring the invention to practical application as any plans submitted by applicants that are not small business firms.

(2) *Conditions.* In addition to the provisions of § 1245.204, the following terms and conditions apply to domestic exclusive and partially exclusive licenses:

(i) The license shall be subject to the irrevocable, royalty-free right of the Government of the United States to practice and have practiced the invention on behalf of the United States and on behalf of any foreign government or international organization pursuant to any existing or future treaty or agreement with the United States.

(ii) The license shall reserve to NASA the right to require the licensee to grant sublicenses to responsible applicants, on reasonable terms, when necessary to fulfill health or safety needs.

(iii) The license shall be subject to any licenses in force at the time of the grant of the exclusive or partially exclusive license.

(iv) The license may grant the licensee the right of enforcement of the licensed patent pursuant to the provisions of Chapter 29 of Title 35, United States Code, or other statutes, as determined appropriate in the public interest.

(b) Foreign licenses.

(1) *Availability of licenses.* Exclusive or partially exclusive licenses may be granted on a NASA invention covered by a foreign patent, patent application, or other form of protection, provided that:

(i) Notice of a prospective license, identifying the invention and prospective licensee, has been published in the **Federal Register**, providing opportunity for filing written objections within a 60-day period and following consideration of such objections;

(ii) NASA has considered whether the interests of the Federal Government or United States industry in foreign commerce will be enhanced; and

(iii) NASA has not determined that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the United States in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with antitrust laws.

(2) *Conditions.* In addition to the provisions of § 1245.204, the following terms and conditions apply to foreign exclusive and partially exclusive licenses:

(i) The license shall be subject to the irrevocable, royalty-free right of the Government of the United States to practice and have practiced the invention on behalf of the United States and on behalf of any foreign government or international organization pursuant to any existing or future treaty or agreement with the United States.

(ii) The license shall be subject to any licenses in force at the time of the grant of the exclusive or partially exclusive license.

(iii) The license may grant the licensee the right to take any suitable and necessary actions to protect the licensed property, on behalf of the Federal Government.

(c) *Record of determinations.* NASA shall maintain a record of determinations to grant exclusive or partially exclusive licenses.

### Procedures

#### § 1245.207 Application for a license.

An application for a license should be addressed to the Patent Counsel at the NASA installation having responsibility for the invention and shall normally include:

(a) Identification of the invention for which the license is desired, including the patent application serial number or patent number, title, and date, if known;

(b) Identification of the type of license for which the application is submitted;

(c) Name and address of the person, company, or organization applying for the license and the citizenship or place of incorporation of the applicant;

(d) Name, address, and telephone number of representative of applicant to whom correspondence should be sent;

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(e) Nature and type of applicant's business, identifying products or services which the applicant has successfully commercialized, and approximate number of applicant's employees;

(f) Source of information concerning the availability of a license on the invention;

(g) A statement indicating whether applicant is a small business firm as defined in § 1245.202(c);

(h) A detailed description of applicant's plan for development or marketing of the invention, or both, which should include:

(1) A statement of the time, nature and amount of anticipated investment of capital and other resources which applicant believes will be required to bring the invention to practical application;

(2) A statement as to applicant's capability and intention to fulfill the plan, including information regarding manufacturing, marketing, financial, and technical resources;

(3) A statement of the fields of use for which applicant intends to practice the invention; and

(4) A statement of the geographic areas in which applicant intends to manufacture any products embodying the invention and geographic areas where applicant intends to use or sell the invention, or both;

(i) Identification of licenses previously granted to applicant under Federally owned inventions;

(j) A statement containing applicant's best knowledge of the extent to which the invention is being practiced by private industry or Government, or both, or is otherwise available commercially; and

(k) Any other information which applicant believes will support a determination to grant the license to applicant.

### § 1245.208 Processing applications.

(a) Applications for licenses will be initially reviewed by the Patent Counsel of the NASA installation having responsibility for the invention. The Patent Counsel shall make a preliminary recommendation to the Director of Licensing, NASA Headquarters, whether to: (1) grant the license as requested, (2) grant the license with modification after negotiation with the licensee, or (3) deny the license. The Director of Licensing shall review the preliminary recommendation of the Patent Counsel and make a final recommendation to the NASA Assistant General Counsel for Patent Matters. Such review and final recommendation may include, and be based on, any additional information obtained from applicant and other sources that the Patent Counsel and the Director of Licensing deem relevant to the license requested. The determination to grant or deny the license shall be made by the Assistant General Counsel for Patent Matters based on the final recommendation of the Director of Licensing.

(b) When notice of a prospective exclusive or partially exclusive license is published in the **Federal Register** in accordance with § 1245.206(a)(1)(iii)(A) or § 1245.206(b)(1)(i), any written objections received in response thereto will be considered by the Director of Licensing in making the final recommendation to the Assistant General Counsel for Patent Matters.

(c) If the requested license, including any negotiated modifications, is denied by the Assistant General Counsel for Patent Matters, the applicant may request reconsideration by filing a written request for reconsideration within 30 days after receiving notice of denial. This 30-day period may be extended for good cause.

(d) In addition to, or in lieu of requesting reconsideration, the applicant may also appeal the denial of the license in accordance with § 1245.211.

### § 1245.209 Notice to Attorney General.

A copy of the notice provided for in §§ 1245.206(a)(1)(iii)(A), and 1245.206(b)(1)(i) will be sent to the Attorney General.

### § 1245.210 Modification and termination of licenses.

Before modifying or terminating a license, other than by mutual agreement, NASA shall furnish the licensee and any sublicensee of record a written notice of intention to modify or terminate the license, and the licensee and any sublicensee shall be allowed 30 days after such notice to remedy any breach of the license or show cause why the license should not be modified or terminated.

### § 1245.211 Appeals.

(a) The following parties may appeal to the NASA Administrator or designee any decision or determination concerning the grant, denial, interpretation, modification, or termination of a license:

(1) A person whose application for a license has been denied;

(2) A licensee whose license has been modified or terminated, in whole or in part; or

(3) A person who timely filed a written objection in response to the notice required by §§ 1245.206(a)(1)(iii)(A) or 1245.206(b)(1)(i) and who can demonstrate to the satisfaction of NASA that such person may be damaged by the Agency action.

(b) Written notice of appeal must be filed within 30 days (or such other time as may be authorized for good cause shown) after receiving notice of the adverse decision or determination; including, an adverse decision following the request for reconsideration under § 1245.208(c). The notice of appeal, along with all supporting documentation should be addressed to the Administrator, National Aeronautics and Space Administration, Washington, DC 20546. Should the appeal raise a genuine dispute over material facts, fact-finding will be conducted by the NASA Inventions and Contributions Board. The person filing the appeal shall be afforded an opportunity to be heard and to offer evidence in support of the appeal. The Chairperson of the Inventions and Contributions Board shall prepare written findings of fact and transmit them to the Administrator or designee. The decision on the appeal shall be made by the NASA Administrator or designee. There is no further right of administrative appeal from the decision of the Administrator or designee.

### § 1245.212 Protection and administration of inventions.

NASA may take any suitable and necessary steps to protect and administer rights to NASA inventions, either directly or through contract.

### § 1245.213 Transfer of custody.

NASA having custody of certain Federally owned inventions may transfer custody and administration in whole or in part, to another Federal agency, of the right, title, or interest in any such invention.

### § 1245.214 Confidentiality of information.

Title 35, United States Code, section 209, provides that any plan submitted pursuant to § 1245.207(h) and any report required by § 1245.204(b)(6) may be treated by NASA as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of Title 5 of the United States Code.

**James M. Beggs,**

*Administrator.*

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